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ISSUE  
148

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**modeller**

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**AFV edition**

1:16 WAAF figure, 1:35 Ukrainian Gepard, Churchill Crocodile references, plus news, reviews and much more...

## REMOTE POSSIBILITY

Tamiya's 1:35 German Assault Pioneer Team  
and Goliath in action on the Eastern Front

AFV Edition - January 2024



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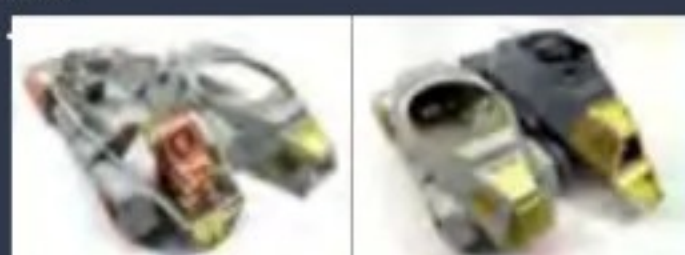
**GECKO MODELS**  
- 1:35 US Military 8' Storage Container (Vietnam War)  
- 1:35 Bedford 15CWT 4x2 200 Gallon Water Bowser  
- 1:35 British WWII Tractor, 4x4 Field Artillery (C8 Mk.II Late)  
[gecko-models.com](http://gecko-models.com)



**I LOVE KIT**  
- 1:35 M1014 w/M747 semi-trailer  
- 1:35 US M48 Patton Main Battle Tank  
- 1:35 US M55 203mm Self-propelled Howitzer, 1950s-60s  
[bachmann.co.uk](http://bachmann.co.uk)

**ICM**  
- 1:35 WWII German Staff Car Typ 320 (W142) Soft Top  
- 1:35 Sd.Kfz.251/8 Ausf.A Krankenpanzerwagen  
[icm.com.ua](http://icm.com.ua) [hannants.co.uk](http://hannants.co.uk)

**LANMO MODEL**  
- 1:35 Sd.Kfz.222/223 engine  
Facebook: search Lanmo Model, homepage tbc



**MINIART**  
- 1:35 Butchers  
- 1:35 G-527 250gal water trailer Buffalo  
[miniart-models.com](http://miniart-models.com)  
[creativemodels.co.uk](http://creativemodels.co.uk)



**SQUADRON SIGNAL PUBLICATIONS**  
- Vietnam Gun Trucks book  
[doolittlemedia.com](http://doolittlemedia.com)



**TAKOM**  
- 1:72 M60A1 w/ERA & M60A3 1+1  
- 1:35 Kamaz Typhoon-K w/RP-377VM1 & Arbalet-DM RCWS module  
- 1:35 Panzerjäger G13  
- 1:35 Panzerjäger 38(t) Hetzer early production  
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- 1:35 Panzerjäger 38(t) Hetzer late production  
- 1:35 StuH42 10.5cm Ausf.E/F  
- 1:35 StuG.III Ausf.F late production w/7.5cm L48  
[bachmann.co.uk](http://bachmann.co.uk)



**TRUMPETER**  
- 1:72 German Leopard 2A6EX MBT  
- 1:35 Russian Object 490A  
- 1:35 Norwegian Advanced Surface-to-Air Missile System (NASAMS)  
- 1:16 Pz.Kpfw VI Sd.Kfz.182 Tiger II Curved-Front 1st Production Nr 280009 (P)  
- 1:16 Pz.Kpfw VI Ausf E Sd.Kfz.181 Tiger I Late Production  
- 1:16 German Sd.Kfz.251 Ausf D halftrack  
[bachmann.co.uk](http://bachmann.co.uk)



**USTAR**  
- 1:48 King Tiger w/full interior Krupp flat-front production turret  
- 1:48 King Tiger w/full interior Krupp curved-front first production turret  
- 1:48 T-90A main battle tank  
[bachmann.co.uk](http://bachmann.co.uk)



### NEW FROM TAMIYA 1:35 PANZERKAMPFWAGEN IV AUSF.G EARLY PRODUCTION & MOTORCYCLE, EASTERN FRONT

This set combines Tamiya's superb, nearly all-new kit of the Pz.IV Ausf.G with the DWK NZ350 motorcycle from 1999. For ultimate realism, combine with Royal Model's detail set No.257.

[www.hobbyco.net](http://www.hobbyco.net) [www.royalmodel.eu](http://www.royalmodel.eu)



### NEW FROM DAS WERK 1:16 SD.KFZ.234/2 PUMA

This must be something a lot of fans of the recently reinvigorated scale 1:16 have been craving! More news on this soon in MIM...

[www.das-werk-models.com](http://www.das-werk-models.com)



### NEW FROM FOXHOPP MODELS 1:35 ZIL-2906 ALL-TERRAIN VEHICLE

This new manufacturer has created a fantastic 3D-print kit of the bizarre but fascinating Russian Zil-2906 ATV caught our eye; a very original subject choice and superb quality.

[www.foxhoppmodels.co.uk](http://www.foxhoppmodels.co.uk)



### NEW FROM GECKO MODELS 1:35 US PACV PATROL AIR CUSHION VEHICLE

Gecko Models have announced the release of an all-new 1:35 kit of the US Navy 'PACV' Patrol Air Cushion Vehicle (Late Production), a British-designed, US Navy-operated machine which saw limited use in the Vietnam War. More news on this kit soon in MIM!

[www.gecko-models.com](http://www.gecko-models.com)



### NEW FROM I LOVE KIT 1:35 US WW2 M3 GRANT MEDIUM TANK

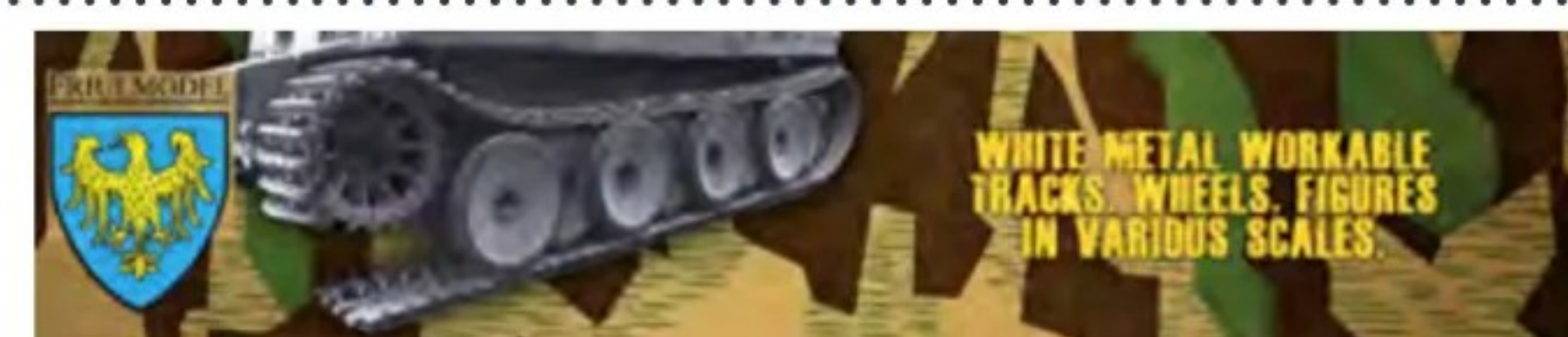
The M3 Grant/Lee is an evergreen scale modelling subject, so it will be interesting to see I Love Kit's interpretation of it.

[www.bachmann.co.uk](http://www.bachmann.co.uk)

### FRIULMODEL: COMING BACK SOON!

Recently we learnt that individual AFV track producer Friulmodel was to cease production, but the great news is that the company is in safe hands and will continue making their excellent cast-metal AFV track sets.

[www.friulmodel.hu](http://www.friulmodel.hu)







### NEW FROM ICM 1:35 AHN 'GULASCHKANONE' WWII GERMAN MOBILE FIELD KITCHEN

This is a very interesting use of ICM's superb AHN2 truck, and ideal for an instant diorama.

[www.icm.com.ua](http://www.icm.com.ua) [www.hannants.co.uk](http://www.hannants.co.uk)



### COMING BACK FROM ITALERI 1:35 DUKW 2 1/2 TON GMC TRUCK AMPHIBIOUS VERSION

Wonderful news from Italeri - their 1:35 DUKW is to return! It's still a very good model and is perfectly timed for 2024's 80th D-Day commemorations. [www.hobbyco.net](http://www.hobbyco.net)



### NEW FROM MINIART 1:35 TOOL SET

Very useful for field workshop dioramas or more complex projects. [www.miniart-models.com](http://www.miniart-models.com) [www.creativemodels.co.uk](http://www.creativemodels.co.uk)



### NEW FROM PLANET MODELS 1:72 FORDSON WOT2E BRITISH WWII 15-CWT TRUCK

A super little model of this WW2 British classic. [www.hannants.co.uk](http://www.hannants.co.uk)



### NEW FROM LANMO 1:35 SD.Kfz. 234 ENGINE COMPARTMENT

Lanmo Model have come up with an excellent way of providing an engine and its compartment for the Sd.Kfz. 234 Schwerer Panzerspähwagen. The set includes photo-etched upper hull and a stunning replica of the vehicle's Tatra-103 powerplant in 3D-print.

Facebook: search Lanmo Model, homepage tbc



### NEW FROM TAKOM 1:35 TIGER I MID-PRODUCTION W/ZIMMERIT

Exciting news for Tiger I fans - this new release from Takom comes with moulded-in Zimmerit, photo-etched engine-deck screens and aluminium gun barrel. [www.bachmann.co.uk](http://www.bachmann.co.uk)



### NEW FROM TAKOM 1:35 TIGER II FIRST-PRODUCTION

This Tiger II depicts the curved-front turret w/105mm KwK 46L/68 version and comes with two different gun barrels and infrared night-vision gear. [www.bachmann.co.uk](http://www.bachmann.co.uk)



### NEW FROM TRUMPETER 1:35 SOVIET MT-LB W/ZU-23-2

Excellent news from comes from Trumpeter with the launch of their MT-LB with full interior and engine and a ZSU-23 AA gun mounted atop the rear hull. [www.bachmann.co.uk](http://www.bachmann.co.uk)



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# HALFTRACK HAT-TRICK!

MIM-AFV Editor **Marcus Nicholls** is very happy to get his hands on Tamiya's three re-issued 1:35 US halftracks!





I am sure many modellers worldwide were extremely pleased when they learnt that Tamiya was to offer a limited re-run of the 1:35 M3A2 (1975), M16 (1976) and M21 (1976) WW2 US half-track kits; I certainly was! The last time I built one of these models (the M21 mortar carrier) was over forty years ago and so I was extremely keen to get my hands on them again, even if it seems they were in somewhat short supply. After a trip to Tamiya's official (and generous) UK importer and distributor, The Hobby Company in Milton Keynes, UK, I was in possession of one each of these models and I could not wait to see how they looked in the box. Actually, before I opened them up, I took some time to admire the box-top illustrations as they are superb examples of Tamiya art and very inspirational.

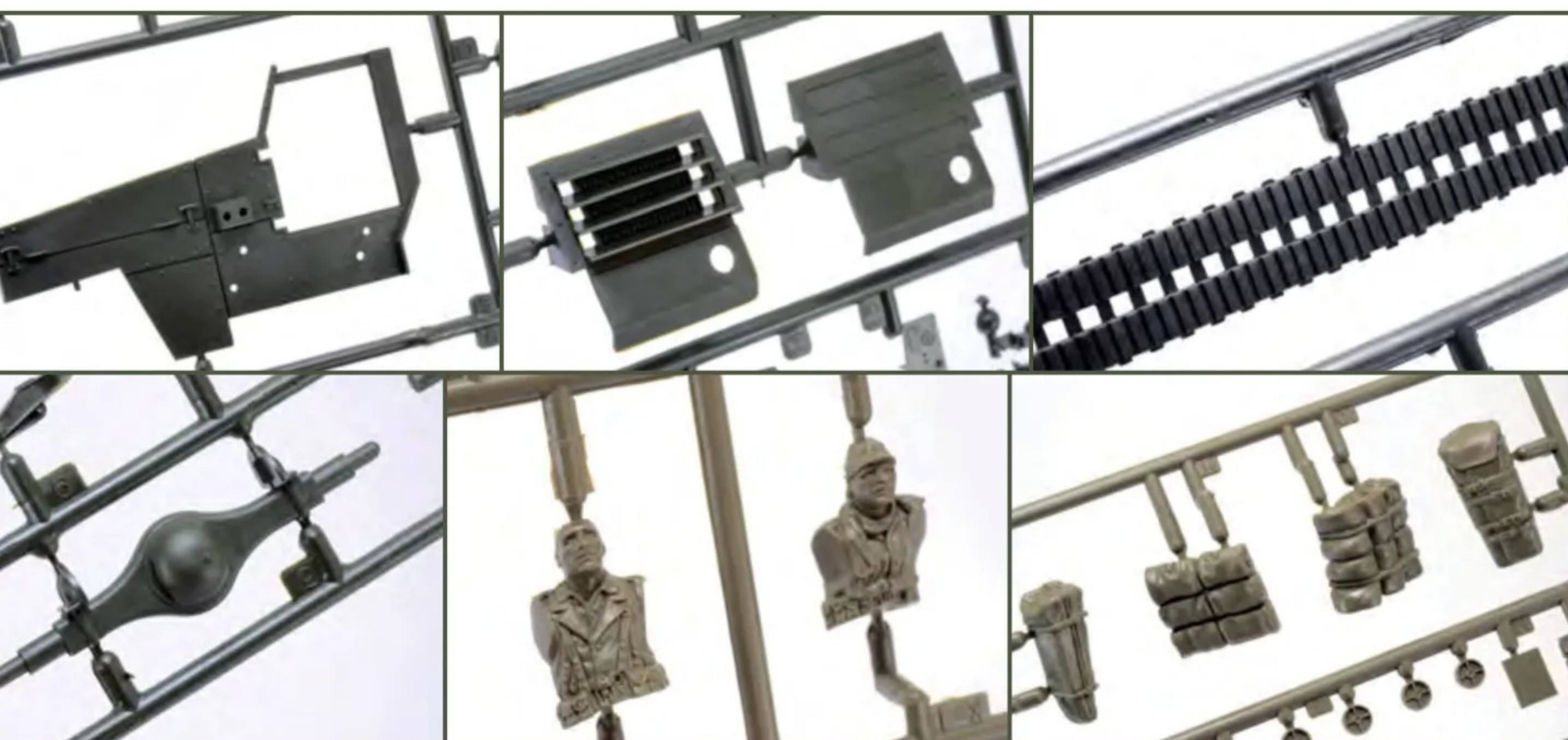
Bearing in mind the vintage of these kits, they look surprisingly good, with detail much finer than I had remembered. Naturally, injection-moulding technology has become more refined over the decades, so certain details – most notably the barrel-carrier handles

on the Browning M2 .50cal guns – are a little thick, but this is to be expected and is easily remedied. And a real bonus for modellers is that a plethora of aftermarket sets already exist for these kits, most usefully perhaps, 3D-printed headlight guards (from MJ Miniatures via [www.passionmodels.jp](http://www.passionmodels.jp)) and, if you really want to give your kit(s) a modern refurb, a complete replacement rear suspension and tracks, also in 3D-print (from FCModeltrend: [www.fcmodeltrend.com](http://www.fcmodeltrend.com)). I think it would be a very interesting exercise to see, with a little investment in some new headlight guards, jerrycans, M2 barrel handles and so on, how good they can look. Grab these re-issues while you can! •

#### AVAILABILITY;

Tamiya models, accessories, paints and materials are widely available from good model shops and online. UK import and distribution by The Hobby Company Limited; [www.hobbyco.net](http://www.hobbyco.net)

- US Armoured Personnel Carrier M3A2 Half-Track 35070
- US Multiple Gun Motor Carriage M16 35081
- US M21 Mortar Carrier 35083





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04969 Airbus H145 ADAC Air Rescue, 1:32

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03808 Airbus A380, 1:288

LEVEL 5  
★★★★★



03813 Dassault Mirage 2000C, 1:48

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★★★★★

easy-click system



Parts are pre-coloured, so do not have to be painted  
03653 Messerschmitt Bf109G-6 (easy-click), 1:32

LEVEL 2  
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easy-click system  
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Features working lights and sound. Parts pre-coloured  
00459 Volkswagen T2 Bus (easy-click Technik), 1:24

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# RUN LIKE A CHEETAH

The 'Flugabwehrkanonenpanzer' Gepard (anti-aircraft-gun tank 'Cheetah') was a fairly revolutionary design when developed back in the early 1960s. **Zack Sex** overhauls the venerable Tamiya 1:35 offering to bring us an up to date Ukrainian variant



**T**he Flakpanzer Gepard first entered service with the West German Bundeswehr in the 1970s. For the Bundeswehr this was a major advance over the US-supplied M42 Duster which lacked a radar system and had been more akin to the flakpanzers of World War Two. Analysis of Germany's combat experience of the later stages of the war would show the weakness of the Wehrmacht's tanks and APCs but more

importantly their logistic system of trucks, trains and horse carts to the dreaded Jabos or Allied ground attack aircraft in the form of Typhoons, Thunderbolts and Mustangs.

The need for modern, mobile, self-propelled anti-aircraft guns was seared into the consciousness of modern military planners. The West German military anti-aircraft units would have had a keen eye on their potential opponents perched on their border in the form

of East German and Soviet frontal aviation units. In the 1970s their possible Cold War opponents would have fielded fleets of MiG-17s, MiG-21s, Su-7s and Mil Mi-8 helicopters, but throughout the 1980s the range of aerial opponents would have expanded to the much more lethal ground attack Su-25 Frogfoots, Mi-24 Hinds, MiG-23BN, '27s and even Su-24s.

Along with this new range of modern ground attack capacity was the valuable





combat experience the frontal aviation units had gathered in Afghanistan. This ensured that the Soviet aviation threat was taken very seriously by the West Germans and their NATO partners, it was however built into NATO calculations that US and Allied airforces would be able to field a large amount of aircraft ranging from F-15s, F-16s, Tornados and F-4 Phantoms and as such would wrestle air superiority from Warsaw Pact forces over

German airspace relatively quickly, particularly if Israel's incredible performance in 1982 against Syria's air force and SAM units was anything to go by.

All of this was fine in theory but what if your opponent updated aspects of their war making capabilities with western technology, launched a failed large-scale invasion of your country and when then in a twisted form of vengeance started attacking your critical infrastructure

with ballistic missiles, cruise missiles and even kamikaze drones provided by a malign and destabilising ally in from the middle east. This was precisely the situation that Ukraine would find itself in from mid 2022 onwards. The Ukrainian air force consisted of a couple of squadrons of elderly MiG-29s, Su-27s and Su-24s, while their SAM and SPAAG units were similarly out dated and probably short of critical spare parts. ➤



### ◀ SOVIET-ERA WEAPONS

The Ukrainians still have numbers of ZSU Shilkas and 2K22 Tunguska SPAAGs but these Soviet-era weapons, while potent against certain targets, were not available in sufficient numbers or in some cases accurate enough compared to the Gepard which had been updated and properly maintained until phased out of German service in the late 2010s. It is also worth noting that the Tunguska with its combined missile and gun system was retailing for a cool \$16m compared to \$700,000 for the dated but more effective Gepard.

Vladimir Putin's invasion of Ukraine on the 24th of February 2022 as diabolical as it was for Ukrainians caused major divergence in Europe. While Poland, Britain and the Baltic nations stood firm against Russian aggression other nations were not as clear cut. Germany, for historical reasons, had always felt extreme guilt over its behaviour in Russia in particular in World War Two and a generation of Germans had grown up with an overwhelming sense of war guilt due to the Nazis' genocide not only in the East but throughout nearly all territory conquered by the Third Reich.

Successive German governments had attempted to build a long standing connection with Russia through trade and in particular the large scale purchasing of oil and gas from Russia for German industry and domestic consumption, the Germans were not alone in this policy but far from buying Vladimir Putin's loyalty he perceived this as a stranglehold that he had over Europe in general and Germany in particular. When the war started to quickly turn against Russia and the US and its NATO allies began to provide serious amounts of military aid to Ukraine, Germany naturally resisted for the reasons outlined hoping perhaps for some sort of land for peace deal, thus allowing a return to the status quo. Germany initially supplied five thousand helmets, but on the 25th of July the first of three Gepards were supplied to Ukraine.

In September 2022 Germany supplied a further thirty Gepards along with other military assistance was supplied to Ukraine, issued with 35mm cannon shells with Norwegian rounds that wouldn't work, while neutral Switzerland initially refused to provide 35mm ammunition directly or indirectly to Ukraine. These problems were ironed out and correct ammunition was provided to Ukrainian forces in time for the Gepard to become a key defender of major cities, infrastructure and people.

### COMBAT SERVICE IN UKRAINE

From day one in Ukrainian service the Gepard has proved to be a highly cost effective and devastatingly accurate piece of air defence equipment. In its first operational battlefield tests Ukrainian Gepards downed numerous Iranian made Shahed-134 and 136 loitering drones these kamikaze drones proved to be highly destructive against civilian and electrical infrastructure until Ukraine acquired Gepards along side IRIS-T and NASSAM missiles defence systems, later US Patriots SAMs completed Ukraines multi tiered air defence particularly around Kiev. The Gepards presence also allows Ukrainian forces to deal with such threats as Iranian drones and even on occasion Russian cruise missiles such as Kh-101

A rear three-quarter view of the Tamiya Gepard showing the addition of the Eduard photo-etched set, cast Takom Gepard update parts along with Italeri smoke grenade launchers, along with individual plastic tracks



Front three-quarter view of the Tamiya Gepard showing the impact of the fine etched detail set including the driver's hood cover, presumably to protect his head from a sea of empty shells as they pour from the right hand side cannon. Also of note the wire handles and scratch built front plate 'bump'



Rear view of the Gepard with the Red Zebra Models camo net on the rear deck and camo cloth rolls on the rear plate which were from the MiniArt BMR-1 mine clearing vehicle with 'etched belts' tying them to the rear. Again these items are seen in photos of Ukrainian Gepards at the front





series at a very cost effective rate than more expensive western SAMs that are retained for more advanced Russian missiles. Gepards can detect Shaheds 136s from 16 kms and can down such target with a quick burst of six rounds. Needless to say the Gepards are not the only low level air defence systems, besides the Shilka and Tunguska Ukraine forces are fielding a wide range of MANPADS including US Stinger, Polish Piorun and Soviet Iglas. At time of writing the Ukrainian air defence is downing about 90 percent of Shahed drones and missiles but the nature of the Russian threat is constantly evolving as is the Ukrainian response. The fact that a Ukrainian counter offensive is widely expected in the next week or so may change the very nature of this conflict, but all of this remains to be seen.

### RIGHT DOWN TO THE KIT

The Tamiya Gepard kit has been around since 1977 and I clearly remember Paul Kunkels getting one of these rather expensive models for his Birthday nearly forty years (dear god, forty years ago!). Was I envious at his good fortune? No, not at all, even at thirteen years of age I had little interest in equipment that hadn't been used in WW2, the Middle East or Vietnam and besides I was content with my Matchbox panzers with their built-in diorama display at 35p per kit, poor as a church mouse and proud of it. ➤

Top shot of the Ukrainian Gepard with the first stage of the camo nets which were made using medical gauze fused with generous amounts of super glue. Of note is a Soviet-style tow cable, scratch built tool box addition, chains on the smoke launchers and Mig productions anti slip added to front and rear sides of the vehicle



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## FULL-BUILD: MODERN ERA ANTI AIRCRAFT VEHICLE

TAMIYA 1:35 FLAKPANZER GEPARD WEST GERMAN ANTI AIRCRAFT TANK • KIT NO. 35099



Side view of the Gepard with pad locked side bins, front mud guards removed, driver's mirror in down position and wiring of camo net along the side of the upper hull. Adding the netting was a little nerve wracking but actually an important addition to Ukrainian variant



A nice clear shot of the Gepard from the rear with the chewed tank wheels shown to good effect and the etched side cover a definite improvement over the solid moulded plastic kit part

It only took me another few decades to get my mitts on a now very reasonably priced re-release of the kit and this was after it appeared in Ukraine. In the mean time, Takom and Meng had released their own very up-to-date models of the Gepard and very fine they were too. At this point as luck would have it, I was asked to build a Takom Gepard

by a friend of mine who wanted it to finish it German colours with its updated fittings but with the older muzzle-brakes. I now hatched a fiendish plot which involved casting one or two items from the Takom kit and using the spare circular muzzle-brakes. Before I started my Ukrainian Gepard I needed a few extras to update the Tamiya kit.

### GEARING UP THE GEPARD

With the updated parts for the Ukrainian variant in hand, I examined the areas of the Tamiya Gepard that needed further seeing to, the main issues seeming to be tracks and detailed areas such the mesh ducting on lefthand side of vehicle, along with various minor handles and turret details. To this end





Finally, the Gepard with overall construction complete gets its primer coat. I love using Humbrol Acrylic spray sand as a primer but Arthuras Skyrius hates it as he states it sucks up all the Tamiya spray. He is probably correct as usual

I went all out and purchased a set of Hong Kong Creation Workshop workable Leopard 1 track links, which are easy to use plastic links, but are not the only ones out there. Next I purchased the Eduard photo-etched set for the Gepard, the postage on which was pricey never mind the product. I opted to make wire grab handles instead of using the flat affairs offered by the Eduard set. To the rear of the real Ukrainian vehicles are two folded tarpaulins held to the vehicle with a pair of large belts and these came from MiniArt BMR-1 kit and fitted the bill nicely.

A few details such the smoke-launcher protectors were scratchbuilt from yogurt carton plastic and one box plus the casting on the front hull were also fabricated from waste plastic. A Soviet-style tow cable was also gracefully hung over the front of the vehicle, a little addition the Editor put us all on to with his early model T-34 of his many moons ago. I also chopped off the front mudguards, really just to show off the tracks. The last addition after some AMMO anti-slip grit/paste was applied was by and far the most risky job – as far as I was concerned – was the addition of camo netting, artistically applied on the front and sides of the vehicle made from hospital gauze. On the rear deck I added a Red Zebra resin camo nett because I saw one on the real thing. Right, enough construction, let's get spraying...

## SPRAY TIME WITH ARTY

I gave Arthuras a shout and we proceeded to get to work on the Gepard. I had primed the model with some Humbrol Sand acrylic spray and was rather pleased with the now unified canvas, only to be told by Arty "no no, that acrylic sucks up the paint". Well, that was me put in my place. After a bit of huffing and puffing I gave the Gepard a shadow coat of Tamiya X-1 Black mixed with X-10 Gun Metal and this seemed to put Arty in better form. The vehicle then received an overall coat of Tamiya XF-67 NATO Green which set it off nicely and we also tried a few highlights in Lifecolor UA303. These are also handy colours.

Next Arty sprayed some clouds of XF-68 NATO Brown followed by a mix of Tamiya XF-63 German Grey blended with X-1 Black to create a suitable NATO black. Now it looked the part, it was almost a shame to weather it and Arty agree but you can't make an omelette with out breaking a few eggs. ➤



Before attacking the Gepard full on German NATO camouflage we decided to give the model a blast of X-1 Black mixed with X-10 Gun metal in the grille areas and under carriage sections of the hull



A similar approach was taken with the flak gun turret, tracking radar and now corrected Takom muzzle brakes, fresh from the Takom build



Let the coverage begin, the first step in the real paint job was applying XF-67 NATO Green while leaving the gun barrels in the original black 'n gun metal mix, I have to say I found the finish pleasing in itself



## FULL-BUILD: MODERN ERA ANTI AIRCRAFT VEHICLE

TAMIYA 1:35 FLAKPANZER GEPARD WEST GERMAN ANTI AIRCRAFT TANK • KIT NO.35099

Just for the craic at this point I tried out some life colour NATO Green, Arthuras found it clogged the airbrush, perhaps because we had been using the Tamiya colours, so we shall be sticking to Tamiya colours for spraying. I found the Lifecolor paints are also good for hand-painting various spots for some subtle change of tone etc



The next step in the camo process was adding waves of XF-68 NATO Brown over the suitably green vehicle. Now it was beginning to look the part. Of note is that Soviet tow cable casually hanging over the front glacis plate of the vehicle

Having sprayed the third part of the NATO camouflage scheme – the X-1 Black – I now suggested to Arty a misting of XF-21 Sky. This Tamiya colour really gives the NATO Green a suitably paler look in parts as one would imagine in real life from sun-bleaching etc

Now for the fun bit: The weathering and detailing process. I generally start with oil paint washes, in this case Daler Rowney Payne's Grey (black, by another name) this when diluted with white spirits, in this case Wilder spirits creates nice dark shades and with further pin-washes added a nice grimy darkness to the model





Before I attacked this particular beast with pigments and oil paint, there was the little issue of markings, which included kill markings on one side of the turret for Iranian-made Shahed-134 and Russian cruise missiles, a unit badge of a cartoon pitbull and some skinny white crosses. These took a while and involved a mix of painting and home made decals.

## MUCKING IT UP

The final stage – or so I thought it was – was applying pigments washes, a mix of Wilder and Mig Productions Dry Mud on the lower hull with European Dust on the turret area. This was over worked with the likes of black oil paint washes, speckling and some drybrushing. All of these added to the desired effect but then I got my hands on a mini leaf-cutter and had the notion of adding leafy clusters to the camouflage netting, again as witnessed in Ukraine war photos and footage. To this end I punch pressed a bunch of mini leaves from old dry ones and glued them with PVA on to the camo net using a tweezers. This created an appealing overall effect and I have to say I was fairly pleased with it, a bit of risk but it paid off. Next I'm going to have a go at a Ukrainian Leopard 2A6 using the new Tamiya re-release of that classic kit, so stay safe and keep modelling. •

## MODELSPEC

TAMIYA 1:35 FLAKPANZER GEPARD WEST  
GERMAN ANTI AIRCRAFT TANK KIT NO.35099

### Materials:

Injection-moulded polystyrene, waterslide decals

### Paints used:

- Tamiya Acrylics: XF-67 NATO Green, X-10 Gun Metal X-1 Black, XF-63 German Grey,
- Humbrol aerosol: Sand
- Lifecolor: UA303 NATO Green

### Accessories used:

Hong Kong Creation Workshop: workable Leopard 1 tracks

### Availability:

Tamiya models, paints, materials and accessories are widely available from good model shops and online. UK import and distribution by The Hobby Company Limited; [www.hobbyco.net](http://www.hobbyco.net)

As the painting and weathering came to a conclusion, I saw a Ukrainian Gepard with its white cross frontline markings and its Shahed-134 drone and Kalibr cruise missile kill markings on the lefthand side of the turret. These were completed with a mix of Lifecolor white primer and cut white decal. I particularly enjoyed the fact that this photo seemed to do the rounds on Ukrainian model-making sites



The final part in this Ukrainian Gepard build was the addition of a Ukrainian AA unit marking about sixty-percent of which was visible on the righthand side of the flak turret. Myself and a co-worker of mine Fiona Dooley worked out the overall marking and she managed to scan and print it out for me in 1:35. It's not very visible on the model but we know it's there. Nice one Fifi





**FULL-BUILD: MODERN ERA ANTI AIRCRAFT VEHICLE**

TAMIYA 1:35 FLAKPANZER GEPARD WEST GERMAN ANTI AIRCRAFT TANK • KIT NO.35099



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# Побратим

**Chris Meddings** creates a highly evocative Russia-Ukraine War vignette in 1:35 entitled 'Brothers' depicting the unique comradeship that develops between fighters on the front line

**T**o be completely honest, I am not a fan of modelling current conflicts. For me, it too often turns real misery and suffering and something visceral and traumatic and of utmost importance, into entertainment and consumption. When Russia's all-out invasion of Ukraine started in February 2022, it wasn't long until some modellers reduced it to rushed dioramas about tractors pulling tanks, a one-liner that let people feel like they were being pro-Ukraine while really only making a shallow comment.

For a long time I wrestled with this train of thought. I am a modeller, I like to build models, and I felt somehow, I could say something, but was it worth saying, or just a solipsistic impulse to feel like I was saying something? The immediate concern steered me away from making models about the war, and towards using modelling in a positive and concrete way. This led to me publishing two books, 'Models for Ukraine' volumes 1 and 2. These allowed me to harness the work of some amazing modellers to raise money for humanitarian aid for Ukraine, and we have so far raised a lot for the Disasters Emergency Committee Ukraine Appeal. These titles are still available as printed books and e-books at [www.insidethearmour.com](http://www.insidethearmour.com). However, I still believed that modelling could say something, and while I do not believe modelling is always art, I believe it can be art, and pieces like 'Burden of Sorrow' by Rick Lawler and Markus Lack, and 'Childhood?' by Peter Usher, have proved it can say something meaningful.

I am not claiming this vignette is art, but I hope it has the weight that a model about a subject like this must have, to avoid turning a model into facile entertainment. It came about because of conversations I have had, conversations I am having, with friends in Ukraine, who have friends on the frontline who have lost friends on the front line and for the friend we lost earlier this year. Its meaning is simple, that the cost of this war is heart-rendingly high and that men who fight together share a brotherhood that is different to any other. ➔

There are a lot of good figures from the manufacturers of Ukraine for Ukrainian armed forces personnel. But if they don't have the pose you need, you can kit-bash, using one leg from this set, one arm from that set and so on

Sitting Guy's legs came from three different sets, and no two parts came from any one figure. I used parts from ICM, MiniArt, and Masterbox and a Hornet head

Lying Guy was a similar mix. However, one leg had a big recess in the thigh to take a crossed leg. This was filled with MagicSculpt, and the folds sculpted onto it. Both arms needed blending in, especially the left to create a realistic stretch of fabric under the left arm. The head was again replaced with a Hornet resin casting





Several test fits were undertaken to ensure the figures would fit together relatively naturally



They were cleaned up, and sprayed black, then zenithal white was applied



## THE BUILD

Lately, I've been getting into sculpting and kit-bashing figures together. There are a ton of good figures on the market and in this case the manufacturers of Ukraine have been releasing a lot of figure sets of Ukrainian armed forces personnel, but the poses of the figures are generally very specific. Most are simply standing, some are in action poses, but if they don't have the pose you need, what can you do? I chose to kit-bash, using one leg from this set, one arm from that set and so on. This brings challenges; the limbs and parts are made for the pose they come from. The most common pitfalls I see when people kit-bash figures badly, is that they do not understand anatomy. They might raise an arm from straight down, to over the head, just by rotating it. The problem is, when your arm is down, your shoulder is down, and when you raise your arm over your head, your shoulder raises (and unless both are up, the other shoulder is usually down, tilting the line of the spine slightly away from the raised arm).

Similarly, when the shoulders tilt one way, the hips usually counter them the opposite way.

When you are working on figures, always try the pose you are working on in a mirror, ensure you adjust your pose to make it comfortable and observe how your body stands (or sits). With that in mind, a little adjusting, such as cutting wedges out to bend limbs – or some remedial sculpting – is often required to make the poses work. However, by using pre-made figure sets instead of sculpting entirely from scratch, is that the parts I am using already have all the common real Ukrainian kit, such as body armour, kneepads, and so on. This is how I constructed these two figures, which I will call 'Sitting Guy' and 'Lying Guy'.

## SITTING GUY

Sitting Guy's legs came from the set 'Russian-Ukrainian War Series No.7 - News from Home' by Masterbox (MB35230) using one leg from each of the two figures included, with his right leg rotated outward to fit the pose, then filled to correct the shape of his right hip and posterior.

His torso came from ICM's 'Sappers of the Armed Forces of Ukraine' (35753). His right arm came from the RPG grenadier in the Masterbox set 'Russian-Ukrainian War Series No.1

Defence of Kyiv', but the hand was swapped out. I don't recall where that came from. His left arm also came from the Masterbox RPG Grenadier and again the hand was swapped, this time for one from an AFV Modeller mannequin set. The head came from Hornet and the helmet came from one of the Masterbox sets which was reamed out to better take the resin head. To make the arms work, I had to do some filling under the armpits and some shaping on the shoulders, as mentioned above.

## LYING GUY

Lying Guy was a similar mix. His long torso, which really suited this pose, came from the Masterbox 'Defence of Kyiv' set. His left arm came from the MiniArt 'Ukrainian Tank Crew at Rest', as did his left leg, which came from the same figure, and his right leg which came from another figure in the MiniArt set. However, this one had crossed legs, so the right leg had a big recess in the thigh to take the left leg. This was filled with MagicSculpt and the folds sculpted onto it. The right arm came from the Masterbox 'Russian-Ukrainian War Series No.4 Territorial Defence Forces

Base colours were blocked in to get a feel for the palette



I wanted at least one figure to be recognisably a National Guard, and the green jackets are very common in the NGU. I started the digital camo with a light sandy base and heavily desaturated dark grey-green blocky patches





of Ukraine, Bucha Clean-up from Russian Marauders and Rapists, April 2022' set. Both arms needed blending in, especially the left to create a realistic stretch of fabric under the left arm. The head was again replaced with a Hornet item. A final set of tests ensured the figures could fit together naturally, then before painting, both figures had their joints sanded and polished with Infini model sanding cloths.

## PAINTING

I started by priming the figures in black with SMS PLP02 Surfacer Black, then added zenithal light from above with Tamiya XF-1 Flat White which would help me define volumes later on. Next, I blocked in some of the basic colours. For the digital camouflage items, I painted them with AK Interactive 3rd Gen 'Decomposing Flesh' (AK11058). Sitting Guy is intended to represent a member of the National Guard of Ukraine, the 'Національна гвардія України', (Natsionalna hvardiia Ukrainy). Their uniform, prior to February 2022, was a dark green. Although they have since received a lot of digital camouflage items (and donated clothing including British DPM and other countries' tactical uniforms), you will still see the odd green item worn by NGU troops, especially the jacket. For this I used AK Interactive 3rd Gen Dark Green (AK11146). I also painted the body armour and webbing with olive green, but this would soon be changed. Sitting Guy's kneepads were painted with AK Interactive 3rd Gen Saddle Brown (AK11104). I added a little white and added highlights to increase the volumes.

## DIGITAL CAMOUFLAGE

Next, I worked on the digital camo. All the colours for this were mixed and I'm afraid it was done on the fly, so I can't give you the exact mixes. I started with a heavily desaturated dark greenish grey, using an olive drab, black, and white. This was applied with a number 0 Winsor and Newton Series 7 brush. I only use 0 and 1 really, as I find smaller brushes have a habit of the paint drying on the tip before you can use it, whereas the larger belly of the bigger sizes retains a little more moisture (but only put paint on the very tip!). I tried to draw blocky shapes and tried not to apply too much to avoid making the overall scheme too heavy in this colour. I then applied olive green patches, using the same methodology. Then, a lighter grey green, and finally I went back in with the Decomposing Flesh, lightened with a little white, to sharpen things up. I worked the green jacket on Sitting Guy, adding a little white and working on the highlights. It's usually a really bad idea to add white to a colour as it drains all the vibrancy out of it, but in this case, it worked correctly for the drab green.

## WRONG COLOUR!

At this point, I showed some photos to a few friends and one Ukrainian friend, Ilya Sobolev, pointed out to me that it's the Russians that wear olive green body armour and webbing! Ukrainians usually wear these items in a colour called 'Coyote'. This is kind of a darker, warmer, khaki. I decided to mix my own and started with a shade or three darker than the

true colour, for a 'shadow' tone. I generally think of painting in three to four tones now, with shadow, mid-tone, highlight and high-highlight. The shadow tone was a mix of AK Interactive 3rd Gen Lemon Yellow (AK11047), their Decomposing Flesh again, and Vallejo Model Color Flat Brown (70.984).

I added a little more Decomposing Flesh to the mix and painted the mid-tones, leaving the shadow tone in recesses, then added a bit more, and some white, and added the highlights, just to the areas light would catch from above. Then I used Vallejo Model Wash Off Grey (76.516). I applied just a tiny amount at a time with a number 1 brush, letting it dry before applications, because it tends to dry more opaque and darker than you would expect.

## SKIN JOB

It was time to do the flesh areas, and here I rely heavily on the AK Interactive 3rd Gen Flesh and Skin set (AK11621) as I am just terrible at mixing realistic flesh colours! I don't always use the darker colours, and in this case, I started with the Dark Shadow Flesh (AK11405). I used the zenithal white I sprayed at the start to delineate where it would go. Next, I applied the Base Flesh (AK11401) thinly over the Dark Shadow Flesh. This is still a dark colour and to me looks more like a light shadow colour. Then I added light flesh to the remaining unpainted areas and blended it into the shadow. Finally, I applied Highlight Flesh (AK11403) to only the most raised areas. I used Highlight Flesh to paint the whites of the eyes and used a dark grey for the pupils. I do ➤

I applied a lighter green on top



Then another shade of green. Then worked the lighter colour back in to define shapes, I kept working the edges of the colours to try to simulate that digital 'squamishness'



I painted the body armour and webbing olive green, but this would soon be changed. Sitting Guy's kneepads were painted with AK Interactive 3rd Gen



◀ not have the skill to paint irises and catchlights in this scale; one day maybe... For the lips I used light flesh with a tiny spot of the Shadow Flesh in it for pinkness.

For Lying Guy I used a slightly different palette; I did not use the Shadow Flesh at all. Its redness is great for imparting a vital warmth to faces, but this guy is dead, and the last thing I want is a healthy glow. I used the Base Flesh, Light Flesh, and Highlight Flesh again, but added just a spot of grey to each. For the lips I added a touch of blue to the Light Flesh.

## THE SETTING

I have been thinking a lot lately about how I model. On the podcast I do with Tracy Hancock and Will Pattison known as the 'Sprue Cutters Union', we have interviewed a lot of truly superb artists like Peter Usher, Jean André, and Marijn Van Gils. Something that I have learned from that is the use of light and colour to push selected elements forward, almost to 'spotlight' them. The overall palette of the figures is quite light, so I wanted something basic and dark that would not have unnecessary detail to distract the eye from the figures and would allow them to stand out from the background, while still looking natural. I was particularly inspired by the work of Alexandre Duchamp. His work with earth effects, and his use of desaturated colour (which can be much harder to work well than highly saturated colours) is outstanding, truly. I spoke to Alexandre about the base, and he gave me some invaluable advice on techniques, although I can't pretend I did it as well as he does!

I started by building a box with black styrene sheet. I use black, because if it gets scratched at any point, I don't want a white line showing.

I added some insulation foam to get the shape of the groundwork and cut the sides of the box to fit the shape, then used household filler powder mixed with black paint and no water to smooth out the surface and again, black paint means if the filler ever cracks, it won't show white. While it was still wet, I added sand to the surface, and some ground-up cork made with a cheap coffee grinder I bought from Amazon to grind the cork up into fine fragments. When all of that was dry, I sprayed it black and again applied white zenithal which would help the texture pop a bit when its finished. ➔



At this point, my Ukrainian friend pointed out to me that it's the Russians that wear olive green body armour and webbing! Ukrainians usually wear these items in a colour called 'Coyote'. I decided to mix my own and started with a shade or three darker than the true colour, for a 'shadow' tone



I added a little more 'Decomposing Flesh' to the mix and painted the mid-tones, leaving the shadow tone in recesses, then added a bit more, and some white, and added the highlights, just to the areas light would catch from above

Then I used Vallejo Model Wash Off Grey (76.516). I applied just a tiny amount at a time with a number 1 brush, letting it dry before applications, because it tends to dry more opaque and darker than you would expect



I started the skin with AK Dark Shadow Flesh (AK11405). I used the zenithal white I sprayed at the start to delineate where it would go



Next, I applied the Base Flesh (AK11401) thinly over the Dark Shadow Flesh. This is still a dark colour and to me looks more like a light shadow colour



Then I applied light flesh to the remaining unpainted areas and blended it into the shadow





◀ To finish the base, I sprayed SMS Premium Brown (PL07) from above in a thin coat. I created shading with the Vallejo Grey Wash and picked out some 'stones' with various greys. I painted the outside of the plinth matt black and designed and cut name plates with my silhouette cutter, spraying them with Alclad 2 Copper. Having a square base with one point toward the viewer allowed me to make use of the dual name in two languages, placing one on each side.

## CONCLUSION

Sometimes a simple scene says more. Often, we want to include so much, but its important to isolate the story you want to tell and remove any element that does not serve the story. In this case, whilst it was essential to have both figures in the scene, the story is really in the face of the soldier holding his comrade and that crucial element needed to be highlighted against the dark base, and presented so that he made eye contact with the viewer. Modelling is a solitary endeavour, but the help and advice of good friends can help you lift your work to new levels. Thank you to everyone that helped me make this peace, and to Marcus for publishing it. •

I started by building a box with black styrene sheet. I added some insulation foam to get the shape of the groundwork and cut the sides of the box to fit the shape, then used household filler powder, sand, and some ground up cork, for texture



## MODELSPEC

### VARIOUS 1:35 RUSSIAN-UKRAINIAN WAR FIGURE SETS

#### Materials:

Injection-moulded polystyrene

#### Paints used:

- SMS: PLP02 Surfacer Black, Premium Brown (PL07)
- Tamiya Acrylics: XF-1 Flat White
- AK Interactive 3rd Gen: 'Decomposing Flesh' (AK11058) Dark Green (AK11146), Saddle Brown (AK11104), Lemon Yellow (AK11047). Flesh and Skin set (AK11621): Dark Shadow Flesh (AK11405), Base Flesh (AK11401), Highlight Flesh (AK11403)
- Vallejo Model Color: Flat Brown (70.984)
- Vallejo Model Wash: Off Grey (76.516)

#### Kits used

- Masterbox: Russian-Ukrainian War Series No.1 'Defence of Kyiv' (MB35223), Russian-Ukrainian War Series No.4 'Territorial Defence Forces of Ukraine, Bucha Clean-up from Russian Marauders and Rapists, April 2022' (MB35226), Russian-Ukrainian War Series No.7 'News from Home' (MB35230)
- MiniArt: 'Ukrainian Tank Crew at Rest' (37067)
- ICM: 'Sappers of the Armed Forces of Ukraine' (35753)
- Hornet: head sets HH19, HH12

#### Availability:

- Masterbox: [www.creativemodels.co.uk](http://www.creativemodels.co.uk)
- MiniArt: [www.creativemodels.co.uk](http://www.creativemodels.co.uk)
- ICM: [www.hannants.co.uk](http://www.hannants.co.uk)
- Hornet: [www.hornetandwolf.com](http://www.hornetandwolf.com)





**NEW  
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**1:35**

# Ferret Scout Car Mk.2

## A1379



FERRET SCOUT CAR Mk.2  
West Germany, August 1961



FERRET SCOUT CAR Mk.2  
British Army Training Unit Suffield (BATUS), Canadian Forces  
Base Suffield, Alberta, Canada, 1980s.



FERRET SCOUT CAR Mk.2  
5th Parachute Brigade, British Army Overseas, Cyprus, 1974.

Length 112mm Width 55mm Pieces 187

After a series of successful light armoured reconnaissance and liaison vehicles, the Ferret Scout Car saw widespread military service from the 1950s right up to the Gulf War in 1990. The Ferret was designed with stealth in mind, able to probe enemy positions. This four-wheel drive vehicle was powered by a reliable 6-cylinder Rolls Royce engine which proved extremely useful if the crew found themselves in a tight spot.

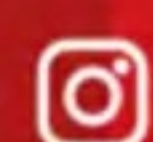
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# JOSEF VERSUS

**Antonio Martín Tello** brings together two Dragon 1:35 JS-2 kits that he built many years ago and Tamiya's 'German Assault Pioneer Team and Goliath Set' to create this dynamic Eastern Front diorama

**W**e hardcore modellers have developed a kind of perceptive bias that makes us notice aspects of reality that go completely ignored by the rest of humans. For example, we stop to observe the exhaust pipe of a lorry, the dirty wheels of public works machinery, the chipping and rust on an old metal gate, or the rickety wood of a fence. In the most extreme manifestation of this interest, we are sometimes able to see Zimmerit patterns in the relief of a tile. A variant of this 'disorder' is that our imagination runs wild when we see certain photographs and we are inspired to recreate that effect, that atmosphere, that scene in our models. Personally, I have been mentally compiling a 'library of images' that one day I would like to adapt in one of my models or dioramas. I am aware that in most cases the idea will never materialise, but a few times I have come close in some of my projects. The one I present in this article is one of them... more or less. There is a handful of photos from the Second World War that show German soldiers using destroyed or immobilised Soviet tanks, usually T-34s, as a shelter or observation position. This was for me the starting point of the journey that, after taking several detours and roundabouts over the years, ended up in this diorama. ➔



IOSIF GEGEN GOLIATH



# GOLIATH





## FULL-BUILD: WORLD WAR TWO EASTERN FRONT DIORAMA

DRAGON 1:35 JS-2 STALIN II, JS-2M UZTM PRODUCTION TYPE • KIT NO.6012, 6804

TAMIYA 1:35 GERMAN ASSAULT PIONEER TEAM & GOLIATH SET • KIT NO.35357



Firstly, the tank. After considering what I had lying around in the cupboard I thought of an M4A2 Sherman 'Lend-Lease' used by the Soviets. At some point I noticed that I had in a cardboard box in the basement a pair of Dragon JS-2s that I had built and painted many years ago that I could use as they are. Here laziness prevailed, I must confess. I didn't intend to spend a lot of effort and besides, the possibility of having two tanks in the diorama could give it an additional attraction. Decision made! In the age of recycling, welcome to its modelling version.

The idea thus spent another long period on my mental 'to-do' list until not long ago I received as a gift the 'German Assault Pioneer Team & Goliath Set' (35357) with two units of the small remote-controlled demolition tank and three 'new generation' figures from Tamiya. Somehow, this set fitted into the Stalin idea that was moving up the to-do list.

Finally, it all came together when I saw the announcement of the new Tamiya 'German Infantry set (late WWII)' (35382). Having painted several of Tamiya's new generation figures, I remember waiting with great excitement and impatience for this set to become available and as soon as I could, I got my hands on one. I was not disappointed, they are probably the best plastic figures available, so I started them as soon as they arrived. All the pieces of the jigsaw were already there and it was time to fit them together. Maybe the final result was not what I had in mind at the beginning, but I think the result was still satisfactory.

### THE STALIN BROTHERS RELOADED

Around the year 2000 I wrote an article for the web (still available at Missing Lynx, 'The Stalin brothers') about two Dragon models of two versions of the Soviet JS-2 Heavy Tank. They were kits 6012 (JS-2) and 6804 (JS-2m UZTM production type). At the time they were the only options for this vehicle and, by the standards of the time, they seemed to us to be quite decent models. We weren't too spoiled yet.

As I read in the article, I basically built the models from the box, although on the JS-2 I tried to represent damage to the mudguards, or their complete loss. Undoubtedly, the most remarkable feature was the paint job. Influenced by pioneers like Miguel Jiménez and what became known as 'the Spanish School', I think it was the first time I painted models in a modern way. By this I mean that I used techniques such as highlighting, oil washes, acrylic mappings and pigments, lots

of pigments (well, at that time it was pastel chalks). The end result was quite striking and there was no turning back for me in tank painting.

More than twenty years later, the Stalin brothers have come back to life. I didn't touch up any of the assembly, although I discovered that some of it could have been improved. I didn't want to waste time with them, after all, the tanks were only going to be the background or set for a scene where the main characters would be the figures and the little Goliath.

The only thing I did was to try to remove the decals and the white bands on the JS-2m and I did it roughly, with pure acetone with a brush. Anyway, there was no problem in damaging the surface of the model, as it corresponded to the proverbial Soviet rough casting. At one point, which I will discuss later, I glued the Stalins to the base and painted them directly on it in order to achieve full integration into the terrain. We will come back to this later.



## THE GROUNDWORK

The dimensions of the base were determined by a 21x30 cm IKEA picture frame on which I created the terrain (note: IKEA's 'Ribba' series of frames is an excellent choice for framing your dioramas). As I wanted a steeply sloping surface, I built walls for the sides and back with plastic card. On this base, I built the basic volume of the terrain with insulating foam, and then more finely and in the most superficial area, with DIY acrylic putty. Once the basic volume had been modelled, I tried out the arrangement of the tanks. I wanted the scene to be compact, with a space at the front where the figures could be placed and a sense of abandonment for the vehicles.

Once I had decided on the position, not only of the hulls but also of the turrets, I made sure that the models would settle completely, creating an effect of weight and even a certain sinking in the terrain. To do this, I removed putty at some points and filled in others, adding accumulations of earth at the end of the chains as if they had been produced by a certain final sliding of the tank.

Once the tanks were glued and well settled on the ground, I proceeded to add the texture on it. For this I used a mixture of fine sand, small pebbles (ballast for railway modelling) and crushed chalk, all fixed with white glue diluted in water. In the areas of accumulation, I tried to create a more suitable texture, adding larger fragments that could simulate clods of earth (pics 1, 2).

## THE STALIN BROTHERS REVOLUTIONS

It was time to paint the Stalins. I was faced with the difficulty of painting two models already fixed to the base, with inaccessible areas and the tracks already installed, something I had never done before. As the base colour I used AK Interactive primer, supposedly of the green colour of Soviet vehicles during the Second World War. I have long since considered the 'true colour' debate to be sterile, especially with Russian green, so the colour proposed by AK works for me.

Besides, using primer as a base colour has the added advantage of saving you a coat. I tried to give a good solid coating that would hide any traces of the previous paint, especially in the case of the JS-2m and its striking white stripes that were still a bit visible in some areas. Once dry, I airbrushed an overall coat of the base colour slightly lightened with white on the horizontal surfaces to lighten them up.

The turret numerals were painted freehand with a fine brush. In the case of '24', I took advantage of the silhouette of the decals present in the original painting, which I had allowed to be slightly perceptible. In the case of the '11', I painted the numbers from scratch with the help of some masking tape guides (the choice of the number 11 is not accidental; I thought that '1' was the easiest digit to paint).

Before moving on to paint weathering effects, I airbrushed a general coat of Tamiya gloss varnish. The resulting surface is more

suitable for the later use of oils or enamels as the solvents flow better. However, the first phase consisted of chipping paint, in a very subtle and controlled manner, using a small, sharp-pointed brush. In some more worn areas it can be applied with an old dry brush, but always in a restrained manner. An ideal colour for chipping paint is German Camouflage Black Brown 70822 acrylic from Vallejo.

I then applied a 'mapping' of oils, which consists of applying small portions of the oils (ochre, orange, brown, buff, grey...) with a small brush and blending them onto the base with the brush slightly moistened in the appropriate solvent. The transparency of the oil paint thus creates subtle variations in colour which in many cases can be interpreted as weathering effects.

I then used a darker palette (sepia, tan earth, dark rust...) to simulate more dirt in the nooks and crannies, subtle oxidations and drips of rust, always in a very restrained and diffused way. At this point, a trick that is quite effective but that you have to learn how to control is the splashing of dark brown paint, by brushing against the grain with the bristles of a more or less stiff paintbrush.

As I say, you have to know how to control this effect, both in the quantity of paint and in the opacity and density of the dots. It is absolutely necessary to test beforehand on another surface and only move on to the model when you have mastered all the factors. As with almost everything, it is better to be too little than too much. ➤





## FULL-BUILD: WORLD WAR TWO EASTERN FRONT DIORAMA

DRAGON 1:35 JS-2 STALIN II, JS-2M UZTM PRODUCTION TYPE • KIT NO.6012, 6804

TAMIYA 1:35 GERMAN ASSAULT PIONEER TEAM & GOLIATH SET • KIT NO.35357



◀ The final touch was a dark profiling of fairly diluted sepia oil paint, which is allowed to flow into the engraved lines, recesses and around details such as the nuts and bolts. Once dry, a very slight drybrush with the base colour was used to highlight the details and protuberances, thus adding depth. I then went on to paint the tracks, spare links and the few details in a colour other than the base green. Here I used patience and a fine brush and tried to get into all the corners. However, if you can't paint it, you probably can't see it, so in the end it was less difficult than expected. Once the weathering phase was over, the models were given an overall coat of matt varnish.

The tanks were then coated with pigments of various earthy tones, with the addition of rust for the tracks. In some corners and on the tracks I added some finely cut grass, of the same type as on the ground, and some laser-

cut paper leaves. Finally, I added a few oil and fuel stains in the engine deck area and the wheel hubs with black and asphalt coloured oils, and the footprints with Calibre35 silicone pads stained with pigments.

### PAINTING THE GROUND AND VEGETATION

I started with an overall coat of 502 Abteilung Light Mud ABT125 oil paint, a colour that I found suitable as a starting point. Then I painted the pebbles with a mixture of white, black and buff, in random proportions and variable density to avoid monotony. When all this had dried, I applied a wash with diluted Industrial Earth ABT090 oil paint to add depth. Finally, in some areas, a very subtle wash of Olive Green ABT050 colour was applied.

Time for vegetation. In my opinion the key here is variation and complexity. Any visit to

the countryside shows us that the quantity and variety of plants and plant debris is enormous, so we have to try to replicate this diversity. The first layer is a mixture of dried posidonia fibres, dried leaves, birch seed pods, oregano, all finely chopped and glued randomly on the ground with white glue. Here and there, randomly, more of one of the components or longer posidonia fibres were added to add complexity to the soil.

I also added individual leaves from two sources. Some made by myself with a Green Stuff World die cutter on manila paper and others commercial laser cut from Plus Model. In both cases, these leaves were retouched once glued with diluted green and ochre paints, randomly. When all the vegetation base was glued and retouched, I applied pigments in the same tones as those used for the tanks, especially in the area of the tracks. This helps



to integrate all the elements of the ground and the ground with the tanks themselves.

I then moved on to higher grasses and vegetation. Here I used a lot of materials, some commercial, some of natural origin collected by myself. It is a matter of depicting credible grasses and plants, convincingly distributed and "planted" one by one with tweezers and droplets of white glue. It is a long, sometimes tedious task, but I insist that the more complex your terrain is, the more realistic it will be. The two larger bushes, one of them half crushed by the JS-2, are made with branches of "aristata teloxys" covered with small portions of Mininatur leaf mats (913-22). The latter material is my absolute favourite for creating the foliage of large shrubs and trees. In some cases, it was necessary to paint the leaves or plants with muted green or diluted ochre colours to eliminate the unnatural look that some of these commercial items present from the box.

## GOLIATH AND FIGURES

The Goliath was a small wire-controlled vehicle designed to carry an explosive charge that could be guided and detonated remotely. Two basic versions were produced, one with an electric motor (Sd.Kfz.302) and one with a petrol engine (Sd.Kfz.303). Its targets were tanks, fortifications, enemy infantry concentrations and so on. Although more than 7,000 units were produced, its complicated maintenance and its fragility and vulnerability on its way to the target made it a not very effective weapon, considering that it was also single-use.

Tamiya offers two Goliath Sd.Kfz.302 in their kit 35357. The small model is very well detailed and assembles without any complications, resulting in a lovely mini-tank. The tracks are of the 'link and length' type and simulate the sagging on the upper section well. The painting started with a base coat for which I mixed white and dark yellow primers from AK Interactive. Then chipping with a fine brush, weathering with oils, profiling also with oils and dirtying with pigments (pics 3, 4, 5).

Don't forget to add the control cable that connects the vehicle to the operator's remote control. Although Tamiya includes a piece of thin wire in the box for this purpose, I used two thinner copper wires which I braided as can be seen in references (in reality there should be three braided wires, but at this scale they are indistinguishable). In the box

the Goliath is accompanied by a team of three German engineer figures: a non-commissioned officer looking through binoculars, the device operator and a soldier lying down. These are 'new generation' figures that Tamiya now designs based on 3D scans, and they surpass the brand's older ones in quality.

The lying figure is very good, both in sculpt and pose, while the other two, while not bad, are less inspired. As already mentioned, the other four figures come from the recent German Infantry set (late WWII 35382) and I can only say that they are superb in every aspect. Quality of the moulding, detailing, lifelike poses, variety and quality of weapons and equipment, inclusion of decals for insignia. Everything makes these figures probably the best I have ever seen in plastic and not far behind some of the best resin figures on the market. Of the set of five figures I used four because the fifth one is wearing a coat under the camouflage poncho and didn't quite fit in with the other seven, who seem to be wearing less warm clothing.

The assembly of the figures was more or less from the box. I cut the hands off some of them and hollowed out the sleeves. This involves lengthening the wrist area of the cut hands a bit and then reinserting them back into place once they are painted. The only additions were the gun slings and the chinstraps on the helmets. I painted the figures with Vallejo acrylics following the now standard routine of zenithal light, that is, considering that the light illuminates the figures from above and thus painting the upper or external areas of wrinkles or details lighter and the lower or deeper areas darker to simulate highlights and shadows. These highlights and shadows are applied with a brush in the form of subtle, successive glazes of very diluted paint over the base layer. Figure painting is an art which requires talent, but which benefits greatly from constancy, practice and observation. In my case, I think I have reached a moderately acceptable level after painting many figures and following tutorials, articles and books by great masters. ➔



14



15





## FULL-BUILD: WORLD WAR TWO EASTERN FRONT DIORAMA

DRAGON 1:35 JS-2 STALIN II, JS-2M UZTM PRODUCTION TYPE • KIT NO.6012, 6804

TAMIYA 1:35 GERMAN ASSAULT PIONEER TEAM & GOLIATH SET • KIT NO.35357



◀ I would especially like to mention Jaume Ortiz and Calvin Tan, whom I try to copy without any shame, although with relative success. I strongly recommend you to look for Youtube videos or tutorials of these masters and learn their techniques.

However, there is a 'shortcut' that makes the task of applying highlights and shadows on a figure considerably easier in the case

of uniform colours. On a figure (or part of it, such as the head), already painted with the base colour and with a good sculpture to mark the volumes, the lightened base colour is airbrushed from above. The idea is to "paint the light" that would come from above.

Airbrushing from this position, the paint is mainly deposited on the upper part of the figure, which is precisely where I want to

illuminate. Subsequently, I 'painted the shadow' by airbrushing the darkened base colour from below, so that the dark paint is mainly deposited on the lower part of the volumes.

This procedure, done correctly, provides an excellent base on which to work with the brush, applying glazes if necessary, refining the lights and shadows, and adding lighter or darker tones if I want to emphasise the reliefs even more. Naturally, then there is still the work of painting the details, the equipment, its ageing, the outlining... but we already have a starting point with less effort (*pics 6 to 15*).







## IOSIF GEGEN GOLIATH

The time came to place the figures on the ground. The scene that began as a mental image that has been gradually defined must be completed with a more or less attractive arrangement that makes the figures interact correctly. First of all, the soldiers are fairly clustered on the left side, leaving the right half for the Goliath. The rear-facing sergeant connects the group of kneeling men, watching the trajectory of the small vehicle, with the

two standing soldiers, who are presumably joining the group. The massive Stalins serve as a backdrop to the soldiers and their 'toy', the real protagonists of the scene, and helps to emphasise their smallness and fragility. "Iosif gegen Goliath" (Josef versus Goliath) is a bad wordplay that mimics the classic "David versus Goliath", but here the tables have turned on the biblical story. Goliath is the little warrior who faces the giant Iosif (Stalin) against all odds. •

## MODELSPEC

DRAGON 1:35 JS-2 STALIN II, JS-2M UZTM  
PRODUCTION TYPE KIT NO.6012, 6804  
TAMIYA 1:35 GERMAN ASSAULT PIONEER TEAM  
& GOLIATH SET KIT NO.35357

### Materials:

Injection-moulded polystyrene, waterslide decals

### Availability:

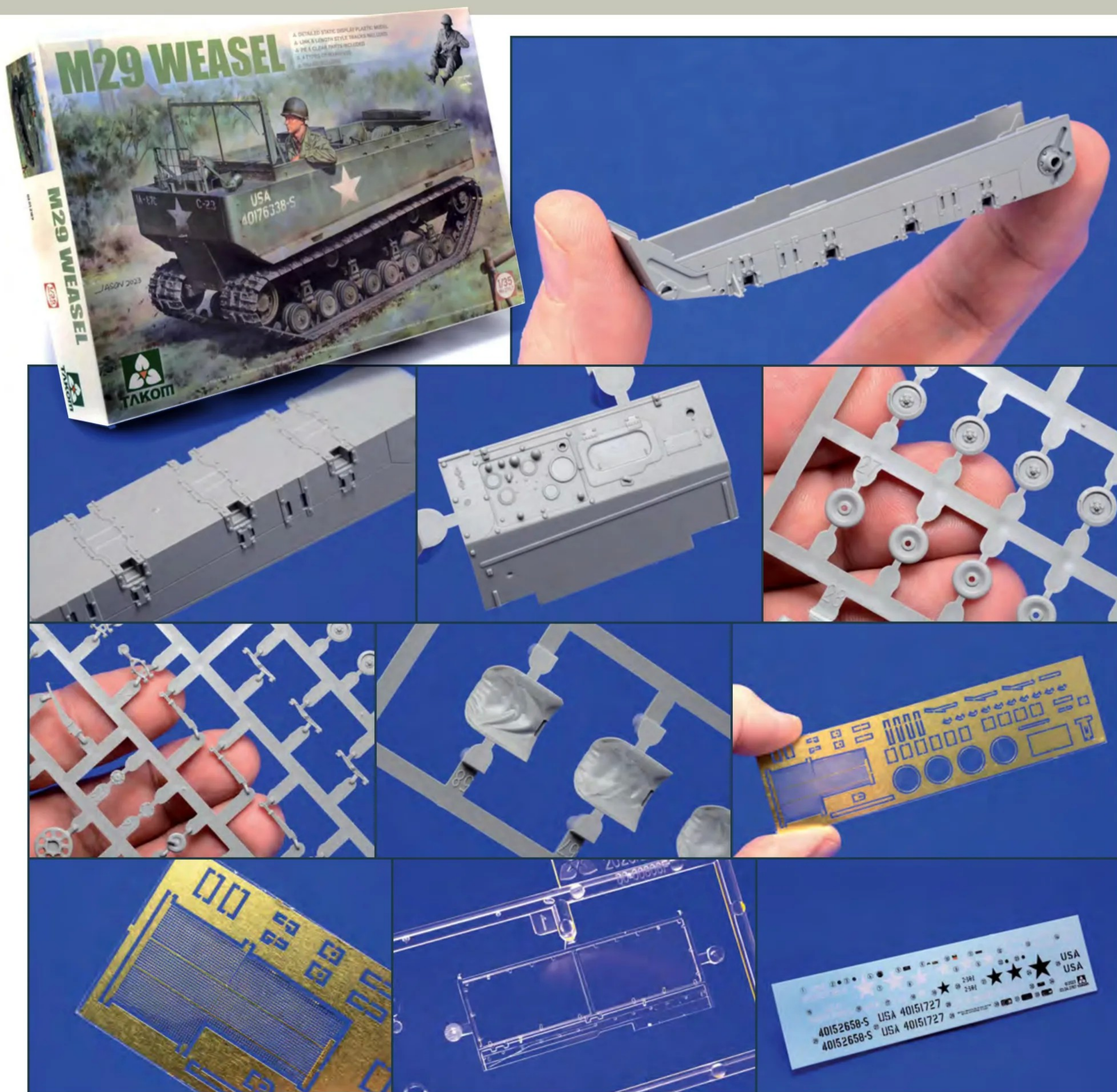
Tamiya and Dragon models are widely available from good model shops and online. UK import and distribution by The Hobby Company Limited; [www.hobbyco.net](http://www.hobbyco.net)





# WEASELLY IDENTIFIED...

Takom have brought us not one, but two tiny M29 Weasels in 1:35!





The M29 Weasel was a tracked vehicle built by Studebaker from the World War II era, designed for operation in snow. Weasels were also used in sandy, muddy and desert terrains, towing loads over terrain that wheeled vehicles could not negotiate. The M29 took part in the United States Marine Corps landings on Iwo Jima and Okinawa during the Pacific War.

The Weasel was designed by British inventor Geoffrey Pyke to support Project Plough, aimed at attacking Axis forces in Norway. The initial version, T15 (later M28), featured a rear engine, front wheel drive system, fifteen-inch Kégresse-style tracks and a two-passenger capacity. The later M29 version had a front engine, rear wheel drive system, twenty-inch tracks, larger passenger/load capacity and improved amphibious capabilities.

Standard M29s were semi-amphibious, but

with a very low freeboard, so the M29C Water Weasel version was produced with fore and aft buoyancy cells and twin rudders. Capable of operating in inland waterways, it also saw limited action in surf conditions in the Pacific Theatre of Operations and during the landings on the Walcheren region (and former island) in the Dutch province of Zeeland at the mouth of the Scheldt Estuary in the Netherlands (Weasel history edited from Wikipedia).

## ENTER TAKOM

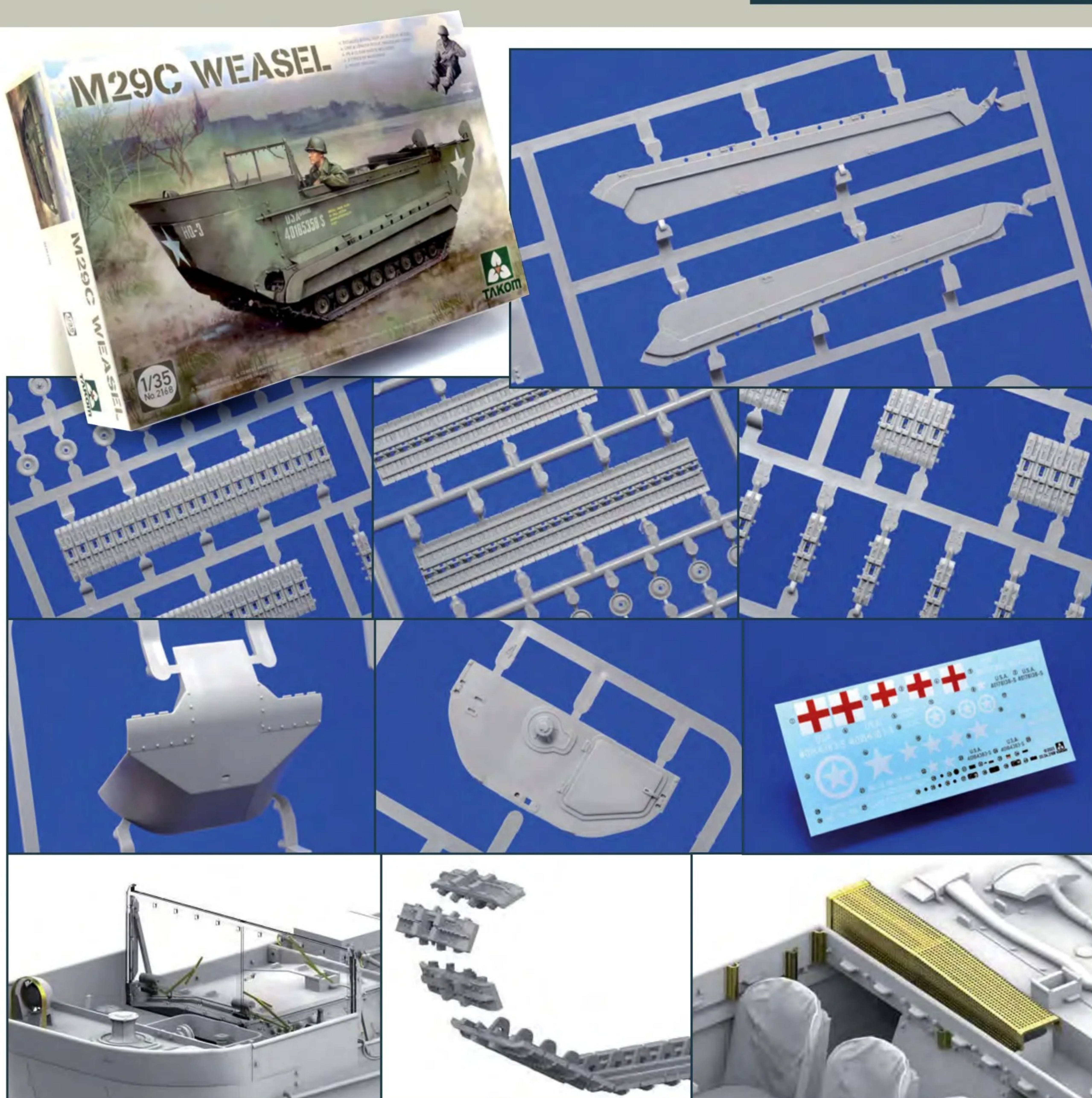
Modellers have been crying out for a modern, 1:35 injection-moulded kit of this tiny machine and this year, Takom obliged with not just one, but two models of this diminutive amphibian. One can immediately determine just how small it is by looking at the lower hull moulding pictured opposite left; it's more reminiscent of a 1:72 kit than something in 1:35! But, as

the saying goes, good things come in small packages (do they? Ed.) and Takom have done a masterful job of the detail with these releases. The real test of one's modelling mettle will come when constructing the suspension, running gear and tracks, which come as scores of tiny, individually-moulded components, strikingly different to Tamiya's approach, were they to release a kit of the same subject. Good side-cutters, fine tweezers, an optical magnifier and heaps of patience might well be required here. But that's what modelling is all about!

We shall be building at least one of these kits for review, so keep reading to see how it comes together... •

## AVAILABILITY;

Takom models are widely available from good model shops and online. UK import and distribution by: [www.bachmann.co.uk](http://www.bachmann.co.uk)





# A DUKW OUT OF WATER

In this well known photo, we can observe Canadian soldiers unloading boxes of ammunition from a DUKW amphibious vehicle. The markings on metal boxes

read: 25pdr Shell Smoke B.E (smoke shell with base ejection). With Italeri about to re-release their basically excellent 1:35 kit of this machine and an all-new model on the way

from 'I Love Kit', the time is right to build this amphibian in miniature again! •

*Photo: Canadian archives/public domain*











# ENGLISH ROSE

**Paul Willison takes Life Miniatures' stunning 1:16 RAF Women's Auxiliary Air Force figure and paints her to perfection using Humbrol Enamels**

**A**fter posting some images on Facebook, I was been kindly asked by the Editor to write a review of a Life Miniatures kit I have recently finished and a brief explanation of the techniques I use. I returned to model making and figure painting in the last five to six years after an almost fifteen year break. As a collector of WW2 RAF items, when I saw this figure I just had to buy one.

The figure is the 1:16 WAAF Section leader 1940-1941, beautifully cast resin and with very little clean up required. Respect has to be paid to the person who originally sculpted this. There are eleven separate parts to the kit and after a wash in mild detergent the arms and gas mask bag were attached with super glue. The fit is so good hardly any filler was needed; I used just a small amount of white Milliput as it is extra fine and is easy to blend on figures with an old wet paint brush to fill any small gaps. I primed all of the parts with a white acrylic car primer aerosol as I prefer white for priming figures. Any unseen flaws were then filled or blended out and re-primed.

I use mainly Humbrol enamels for uniforms and equipment and oils for flesh tones and I applied a base coat of Humbrol Enamel No.61 Matt Flesh mixed with No.34 Matt White for a base coat on the face and hands. Once dried I used a mix of raw umber and burnt Sienna oil paints, applied quite thickly over the base coat and I then use a wide, flat brush to remove the excess paint onto some kitchen towel. This process leave the recesses of the face with highlights and shadows.

I left this to dry for a couple of days, I then started creating the flesh colour. I always have found female flesh tones very challenging and the main colours I used for the face were titanium white, cadmium red and yellow ochre, blending and mixing slightly different shades each time, with the addition of raw umber, burnt Sienna and ivory black for extra deep shading.





I know oils are not everyone's cup of tea due to the long drying time but I like them as they stay workable for longer. The tubes I have are approximately forty years old as they used to belong to my grandmother and they are still perfectly usable. I would suggest if you want to try oils, allow good drying time before working on the same area again and whilst drying leave in a dust-free place.

### UNIFORM PAINT FINISH

The rest of the figure was painted with Humbrol Enamels, the uniform colour being an old tin of Humbrol Authentic Colour No.HF4 Light Blue Grey as the base shade. Highlighting and shading was achieved using the base colour mixed with No.67 Matt Dark Grey and No.33 Matt Black for the shading and No.64 Matt Light Grey and No.34 Matt White for the highlights, heavily thinned and built up in successive layers between drying times.

The buttons and buckle were a mixture of No.16 Gold and No.83 Matt Ochre. Insignia is No.33 Matt Black with the highlighted parts in No.34 Matt White with a hint of Light Grey. The helmet is No.27 Matt Ocean Grey weathered in raw umber oil washes and No.11 Silver chipping on the rim. The gas mask bag is No.83 Matt Ochre, shaded with the same colour mixed with black, washed with oils and highlighted in the base colour mixed with white. The same is for the canvas gas mask bag strap except using No.84 Matt Mid Stone. The stockings are No.106 Matt Ocean Grey. ➤







◀ The whole figure – save for the face and hands – was then given a final coat of matt varnish. I use Winsor and Newton Matt in aerosol form which is expensive but dries very matt. The figure was then assembled and a hole drilled into one of the feet to insert a metal pin to attach to the base which was very simple; I covered it in masking tape, used a template to draw a circle onto the base and cut it out with a new scalpel blade. After roughing up the base for the medium to adhere, I applied a thin layer tile grout and whilst this was still, wet gently pushed a wooden coffee stirrer stick to create subtle ridges to look like concrete. Once dry it was painted light grey with a couple of dark grey and raw umber washes. The grass is model railway static grass applied with a static grass applicator on 'Mod Podge' Matt. The leaves are dried out catkins from a silver birch tree, stuck down with PVA glue.

I thoroughly enjoyed this figure, both building and painting, the speed of my painting and building is sometimes very slow as I have a number of other hobbies and I quite often will work on a figure such as this for a couple of hours and not touch it again for maybe three weeks. •





## MODELSPEC

LIFE MINIATURES 1:16 WAAF ASSISTANT  
SECTION LEADER 1940-1941 KIT NO.LM-16007

### Materials:

Cast polyurethane resin

### Paints used:

- Humbrol Enamel: No.16 Gold, No.27 Matt Ocean Grey, No.33 Matt Black, No.34 Matt White, No.61 Matt Flesh, No.64 Matt Light Grey, No.67 Matt Dark Grey, No.83 Matt Ochre, No.84 Matt Mid Stone, Authentic Colour No.HF4 Light Blue Grey
- Winsor and Newton: Matt Varnish
- Oil paints: raw umber, burnt Sienna, ivory black

### Availability:

- Life Miniatures: [www.lifeminatures.com](http://www.lifeminatures.com)
- Life Miniatures in UK: [www.ebay.co.uk/str/stevekminiatures](http://www.ebay.co.uk/str/stevekminiatures)
- Humbrol Enamels: widely available from good model shops and online



# Women's Auxiliary Air Force (WAAF) 1939 - 1949

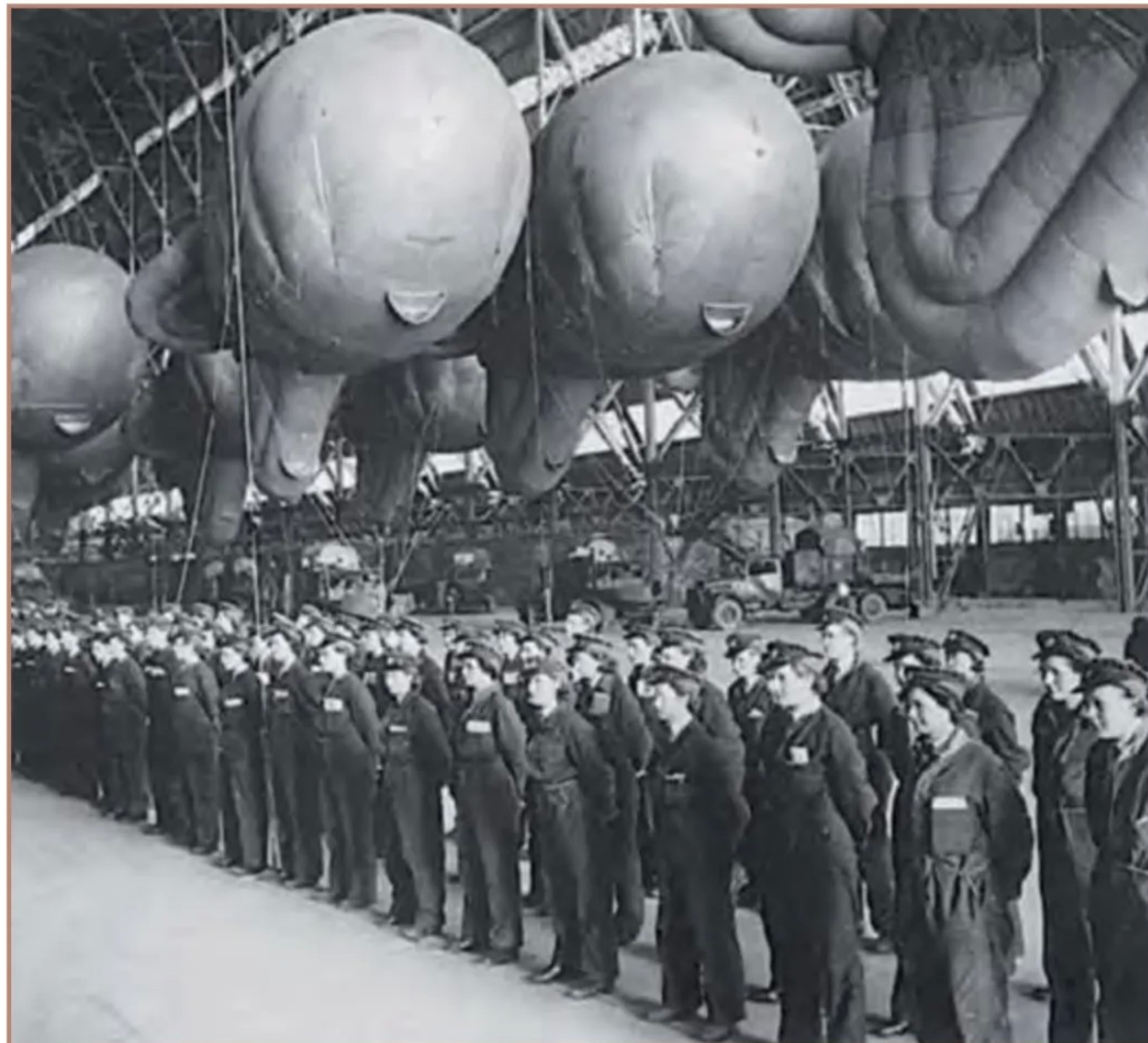
**O**n 28th June 1939 King George VI established the Women's Auxiliary Air Force (WAAF) for duty with the Royal Air Force (RAF) in time of war. First public appearance of the WAAF at the National Service Rally, July 1939. Since 1938, RAF Companies had existed within the Auxiliary Territorial Service (ATS), the female force equivalent to the Territorial Army. These companies were affiliated to Royal Auxiliary Air Force squadrons but by May 1939, the Government decided that a separate women's air service was necessary.

The WAAF was not an independent organisation nor was it completely integrated within the RAF. Rather it was interlinked with its 'parent' force for the purpose of substituting, where possible, women for RAF personnel. It was mobilised on 28th August 1939 and within the year tens of thousands of women had volunteered to serve. In 1941 the WAAF became part of the Armed Forces of the Crown, subject to the Air Force Act. This was greeted with pride and enthusiasm by its members.

With conscription for women introduced from December 1941, the ranks swelled further so that by July 1943 a peak strength of 182,000 had been reached. By 1945 a quarter of a million women had served in the WAAF in over 110 different trades, Certificate of Enrolment supporting operations around the world. They were an integral and vital part of the Royal Air Force's war effort.

Over a quarter of a million women served in the Women's Auxiliary Air Force (WAAF). No fewer than 183,317 were volunteers with a further 33,932 women called up from December 1941. The majority were aged between eighteen and forty. They came from all walks of life and from around the world. By 1943, forty-eight nationalities were represented in the force including Irish, Caribbean and Polish women. Despite coming from a variety of backgrounds, all had to adapt to the rigours of service life; basic facilities, a lack of privacy, shift work and inspections.

For many, camaraderie compensated for feelings of trepidation and homesickness. Sir Winston Churchill's daughter, Sarah served in the WAAF. Great strength of character was required by many WAAFs in continuing to work despite the loss of friends and loved ones. The practical work undertaken by the WAAF, combined with the intangible comfort and moral support which they provided to their RAF colleagues, was essential in keeping the RAF flying. •





# Macchi MC.202 Folgore



N° 2518 model kit  
modèle réduit

1:32 scale  
échelle

100%  
NEW  
MOULDS



1464 F-35® A Lightning II® Beast Mode 1:72



NEW PARTS CTOL version  
Super decals sheet for 6 versions



1460 AMX Ghibli 1:72



100%  
NEW  
MOULDS

Super decals sheet for 4 versions



2824 EA-18G™ Growler™ 1:48



Super decals sheet for 3 versions



1470 Jaguar T.2 R.A.F. Trainer 1:72



Super decals sheet for 4 versions









# CHURCHILL IN ACTION!

**A** column of Churchill tanks of the 9th Royal Tank Regiment during an exercise at Tilshead on Salisbury Plain, Wiltshire, UK, 31st January 1942. An impressive view of this WW2 British icon! •

*Photo: Public domain*









# CHURCHILL MK.VII CROCODILE FLAMETHROWER TANK



References for the WW2

British Churchill Mk.VII

Crocodile flamethrower

tank preserved at the Tank  
Museum, Bovington, UK

[www.tankmuseum.org](http://www.tankmuseum.org)

**T**he Churchill Crocodile was a British flame-throwing tank of late Second World War. It was a variant of the Tank, Infantry, Mk IV (A22) Churchill Mark VII, although the Churchill Mark IV was initially chosen to be the base vehicle. The 'Crocodile' was introduced as one of the specialised armoured vehicles developed under Major-General Percy Hobart, informally known as 'Hobart's Funnies'. It was produced from October 1943, in time for the Normandy landings.

## DESIGN AND DEVELOPMENT

From early in the war there had been experiments with mounting flamethrowers on British vehicles, leading to vehicles such as the Cockatrice, Basilisk and the Wasp (the latter being a flamethrower on a Universal Carrier). The Churchill Oke, a flamethrower carrying Churchill Mark II developed by a Royal Tank Regiment officer, was tested operationally on the Dieppe Raid. Parallel development work was carried out by the Petroleum Warfare Department, AEC and the Ministry of Supply (MoS) on Valentine tanks. The Department of Tank Design preferred the Churchill, which was the Infantry tank successor to the Valentine, as a basis for further work.

The General Staff decided a flamethrower based on the Churchill using the Petroleum Warfare Department's design was required. The main armament of the tank was to be retained. The specification was for a minimum of a minute of flame with an effective range of eighty yards and the fuel to be held in a jettisonable trailer. Twelve pilot models were ordered in July 1942. After Hobart saw the Crocodile demonstrated in 1943, he put pressure on the Ministry of Supply to produce a development plan. The first prototypes Mark VII were delivered to troops in January 1944 and production vehicles in April. The order had been increased to 750; then extended by a further 200 for use in the India and South East Asia.

## FINAL DESIGN

The flamethrower equipment was produced as a kit that REME workshops could fit in the field, converting any available Churchill Mk VII, although in practice field conversion was rarely done, if it was ever done at all, as it made more sense for the flame tanks to be allocated to designated units that had ➤





This view of the turret's face reveals a noticeable casting texture, plus foundry numbers to the right of the barrel

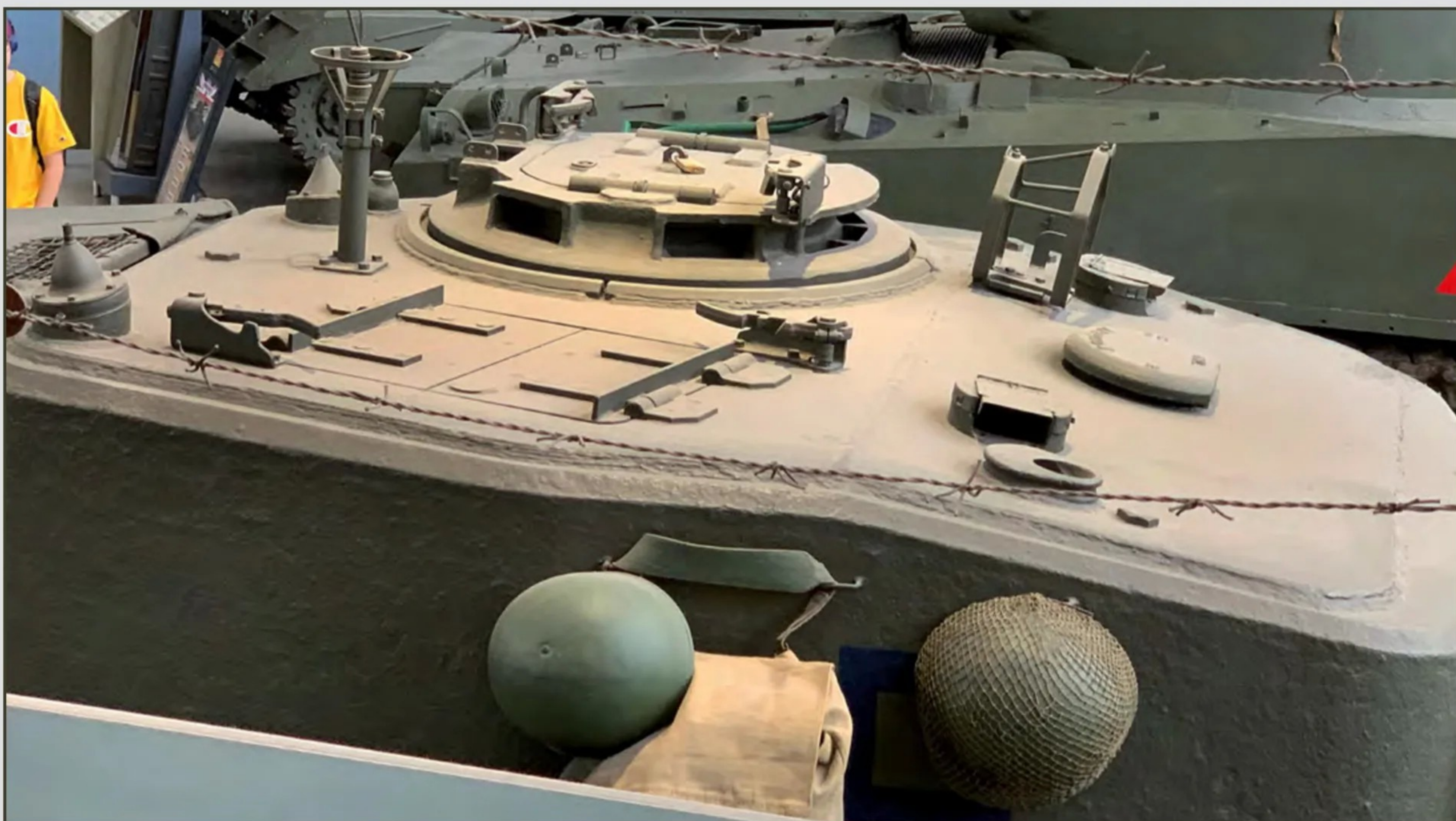
◀ been specially trained to operate them. The conversion kit consisted of the trailer, an armoured pipe fitted along the underside of the tank, and the projector, which replaced the hull-mounted Besa machine gun. Of the 800 kits produced, 250 were held in reserve for possible operations against the Japanese. The remainder were enough to arm three regiments of tanks, and for training and as replacements for battlefield casualties.

The Crocodile's six and a half ton armoured trailer carried 400 imperial gallons (1,800 litres) of fuel and five cylinders containing compressed gas propellant which was enough for eighty, one-second bursts. The fuel was an incendiary mixture called 'Fuel K', redesignated in the year 1944 to FTF, Heavy No. 1 (FRAS), in its version for mechanized flamethrowers. The trailer was connected to the tank by a three-way armoured coupling

and could be jettisoned from within the tank if necessary. The trailer's armour could resist small-arms fire, but could be penetrated by heavier weapons. Therefore, in action, Crocodile crews used their tank to shield the trailer from enemy fire as best they could.

### FLAME PROJECTOR

The thrower had a range of up to 120 yards (110m) some sources quote 150 yards (140m) ➤



Here we see the turret roof with direct gunsight, aerial bases visible

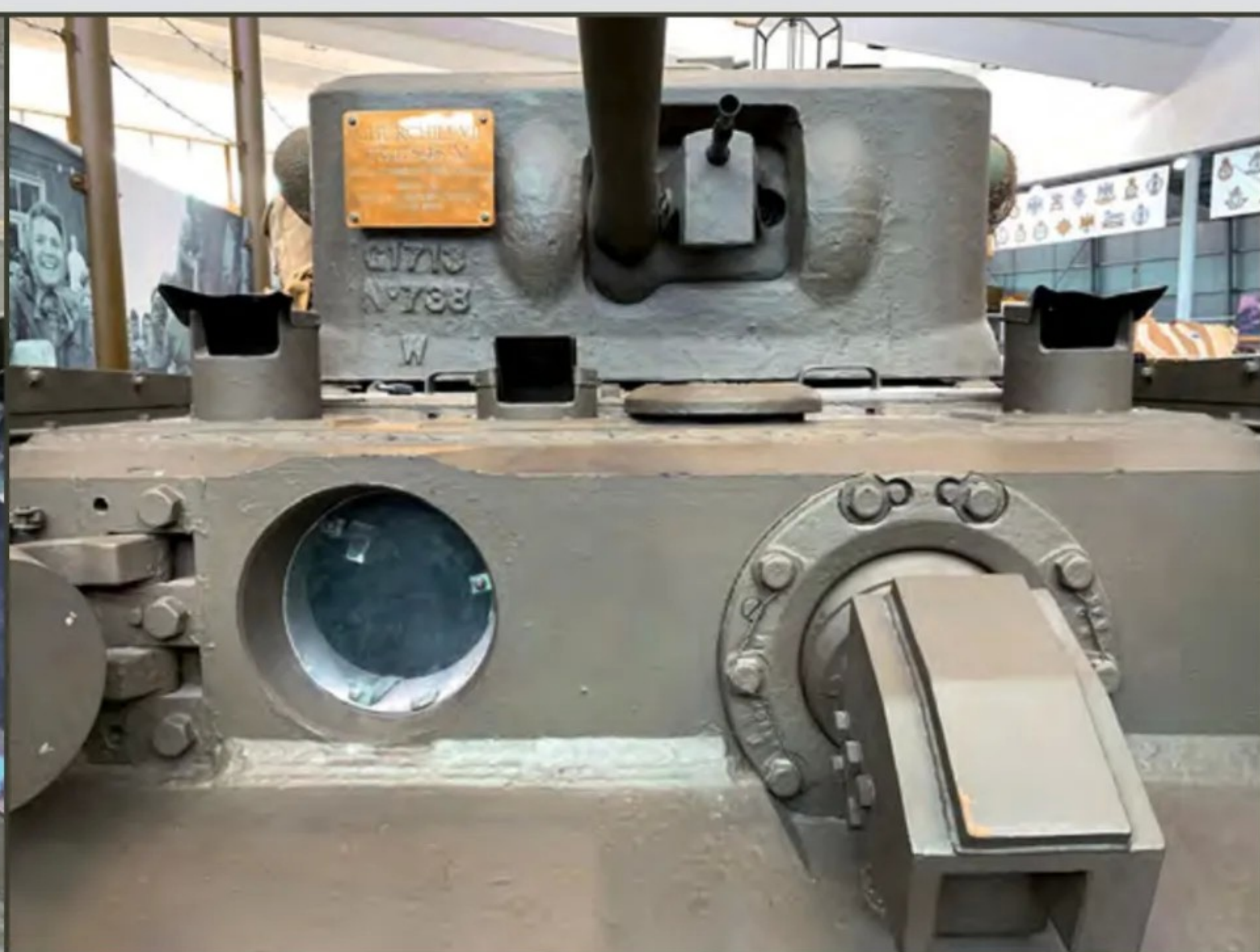




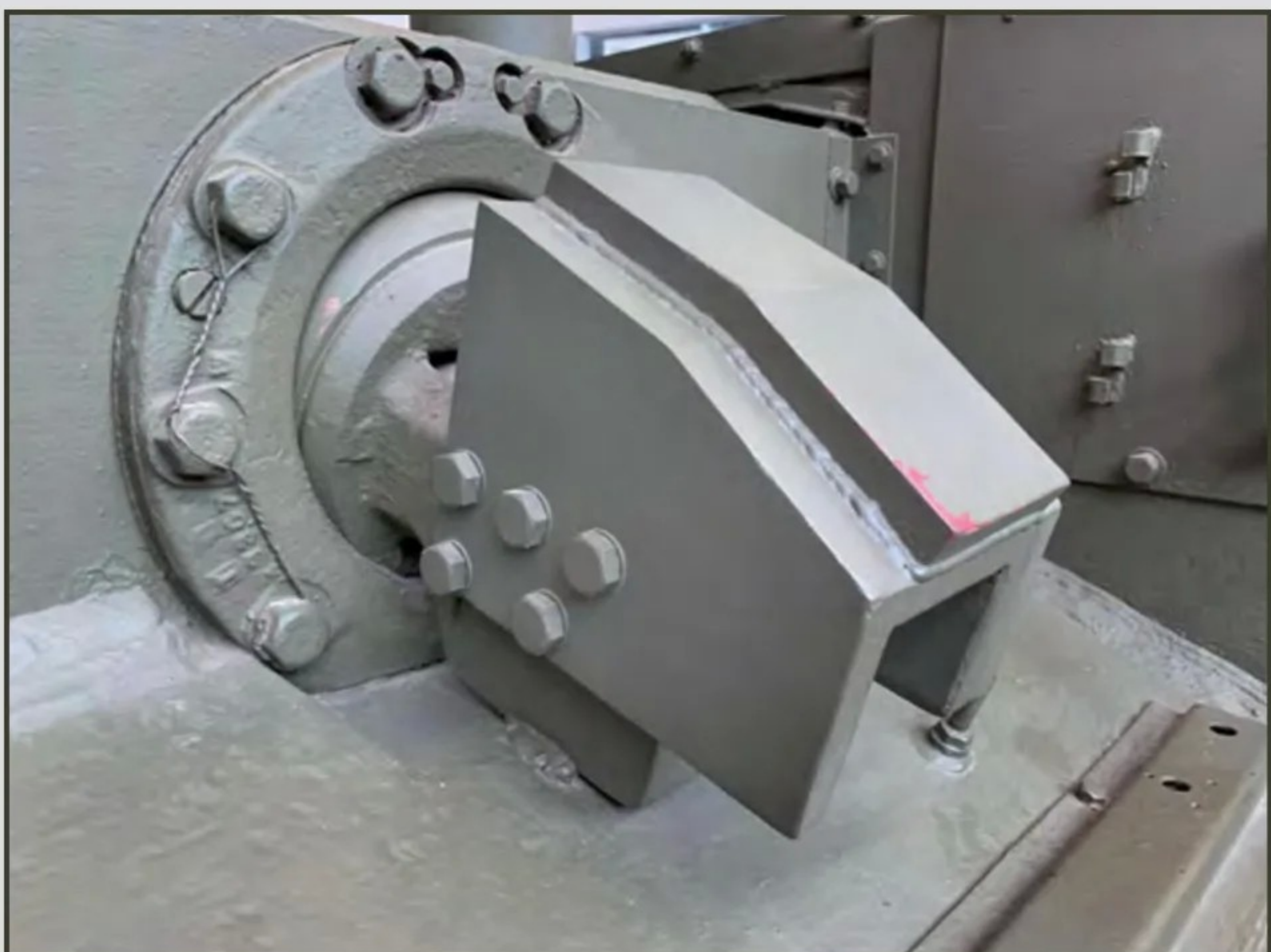
View of lefthand side mudguard and its prominent lower flange and rubber dust suppressor



This view of the righthand side track guard shows the sheet-metal construction plus bolt/rivet fixings



A key characteristic of many British tanks of the WW2 era is the large, round viewing 'porthole' on the frontal armour plate. The full thickness of the armour is revealed here; note also the hefty-duty hinges



The flamethrower projector was protected by thick slabs of armour plate, welded and bolted in place. Note the casting details on its circular baseplate



Close-up view of fittings on the inner face of the lefthand side track guard

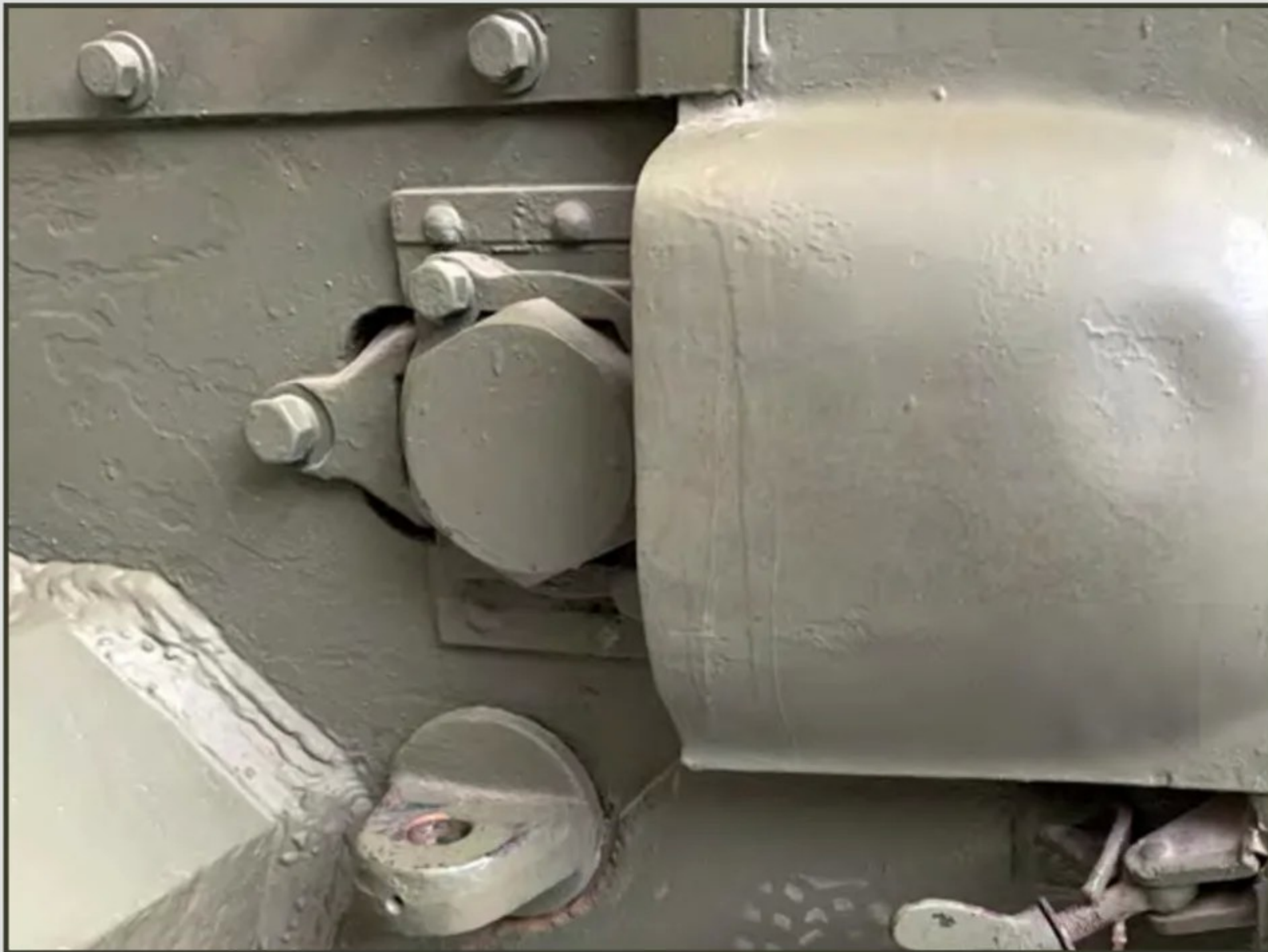




Here we can observe the welding seams that secure the bow-plate to the side-sponsons, plus a good view of the leading track roller



A large wingnut secures the lower part of the mudguard to the main track guard



The bugle seen here covers the track adjuster mechanism with its huge bolt-head in the centre



Just look at all those bolts! The Churchill's side access door allowed only very slim tankmen to enter...



Sponson close-up showing large welding seams, bolts for various fittings and a locking pin with chain



Close-up of sheet-metal smoke-generator on the tank's rear plate





Bolt and flange details on rear mudguard, plus towing eye



Sponson side details; note the lock-wires in the bolts

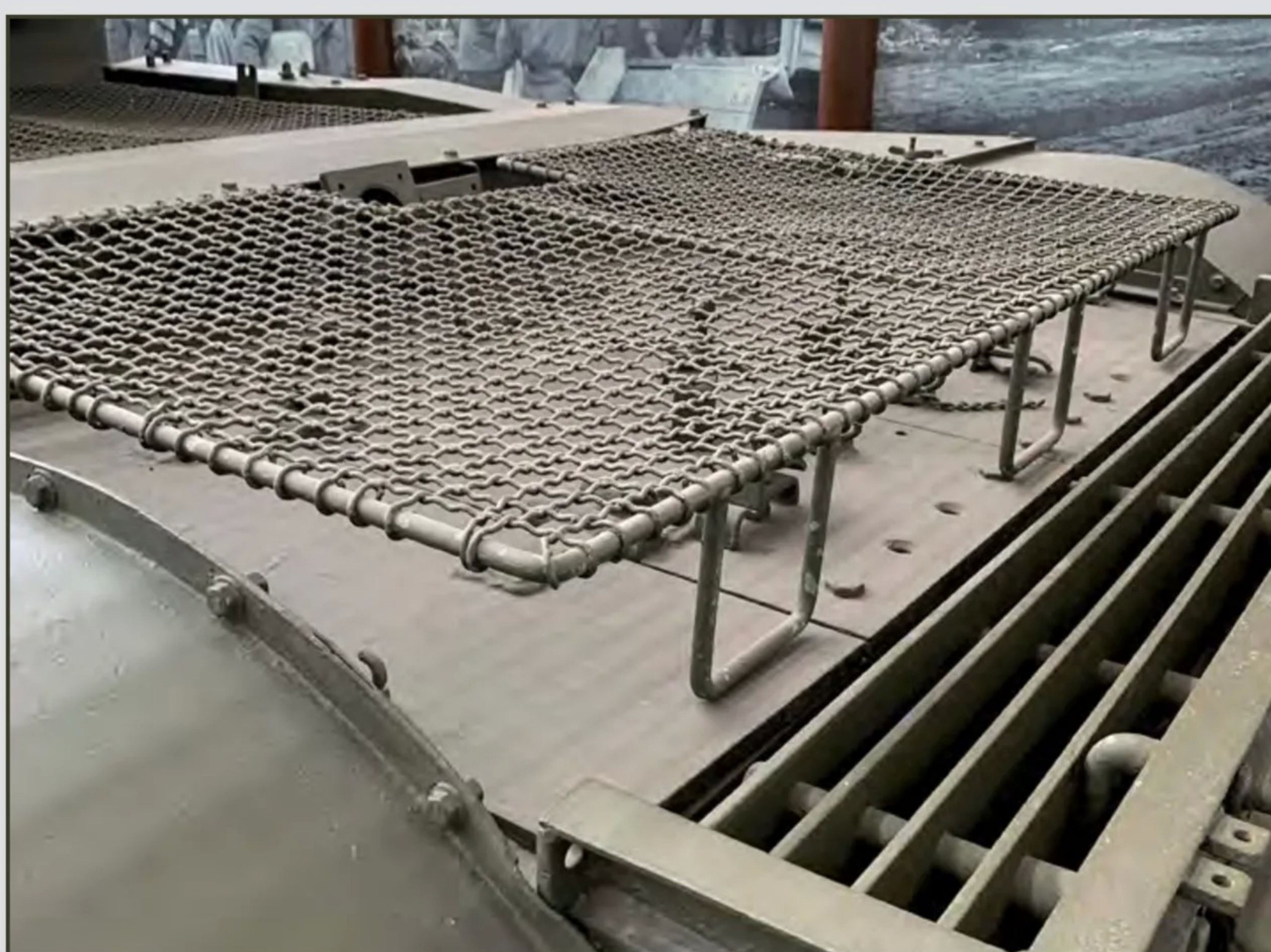


The stiffening ribs that run across the upper track guards are actually hollow, with open ends. A detail worth replicating on a model

◀ but generally the range was around 80 yards (73m). To ignite the flame, the projector used a fine spray of petrol from the Crocodile's main fuel tank; this was ignited by a spark plug, and in turn ignited the main fuel jet. The operator could spray long or short bursts of flaming fuel onto the target. The operator could also spray the target with fuel, then ignite it with a short, lit burst.

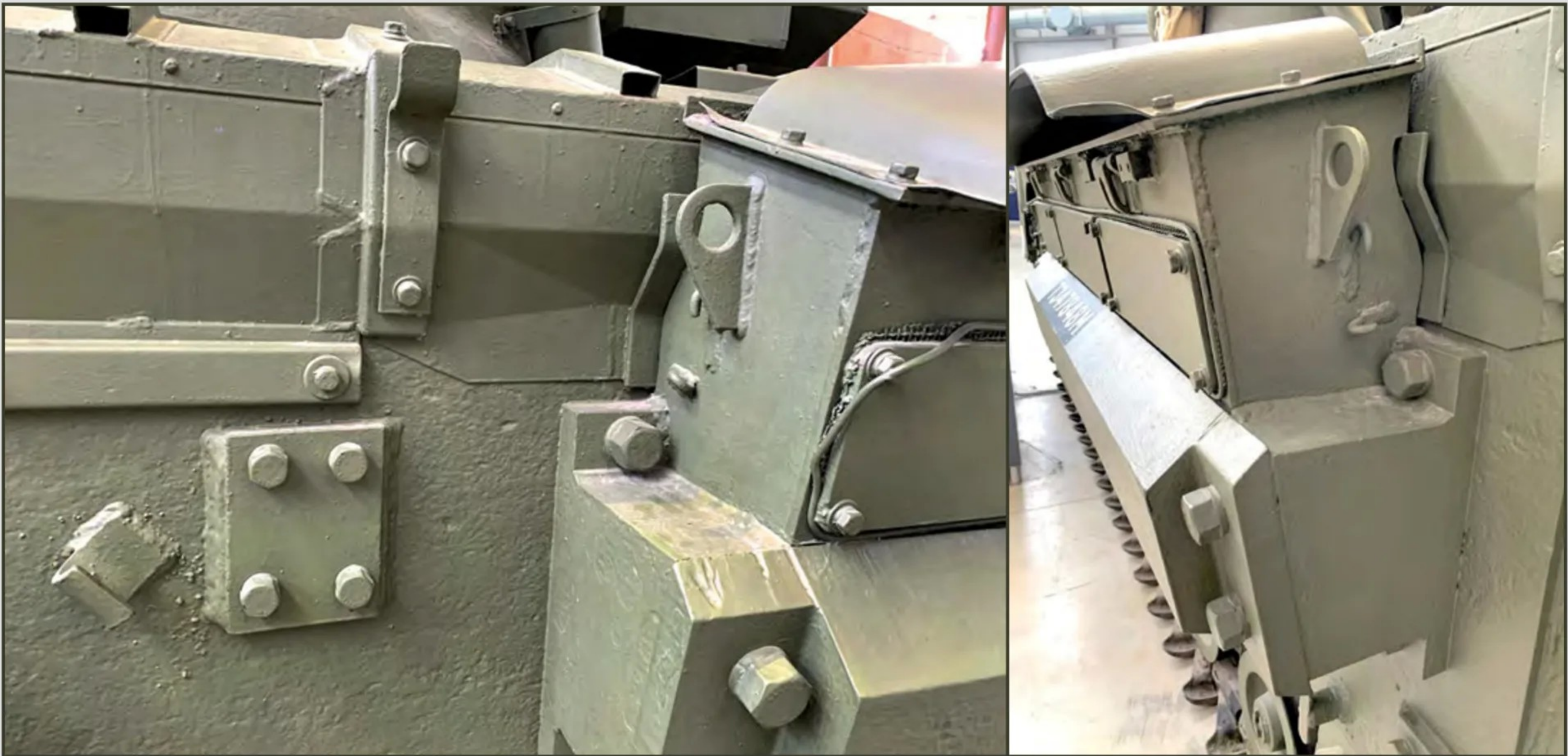
## SERVICE

The Crocodile was a specialised weapon with an effective, but short-range, flamethrower. Used by units of the 79th Armoured Division in concert with the Churchill AVRE, and other 'Funnies', the Crocodile was an effective assault weapon, used so successfully against bunkers that many surrendered after the first ranging shots. The flame projector was a powerful psychological weapon, so feared by the Germans that captured Crocodile crews were often summarily executed. Aspects of the mechanism were considered by the British to be so secret that disabled units, if they could not be recovered, were rapidly destroyed by any means, even air strike if necessary. •



On the example at The Tank Museum, a raised panel of mesh has been installed, presumably to act as a walkway

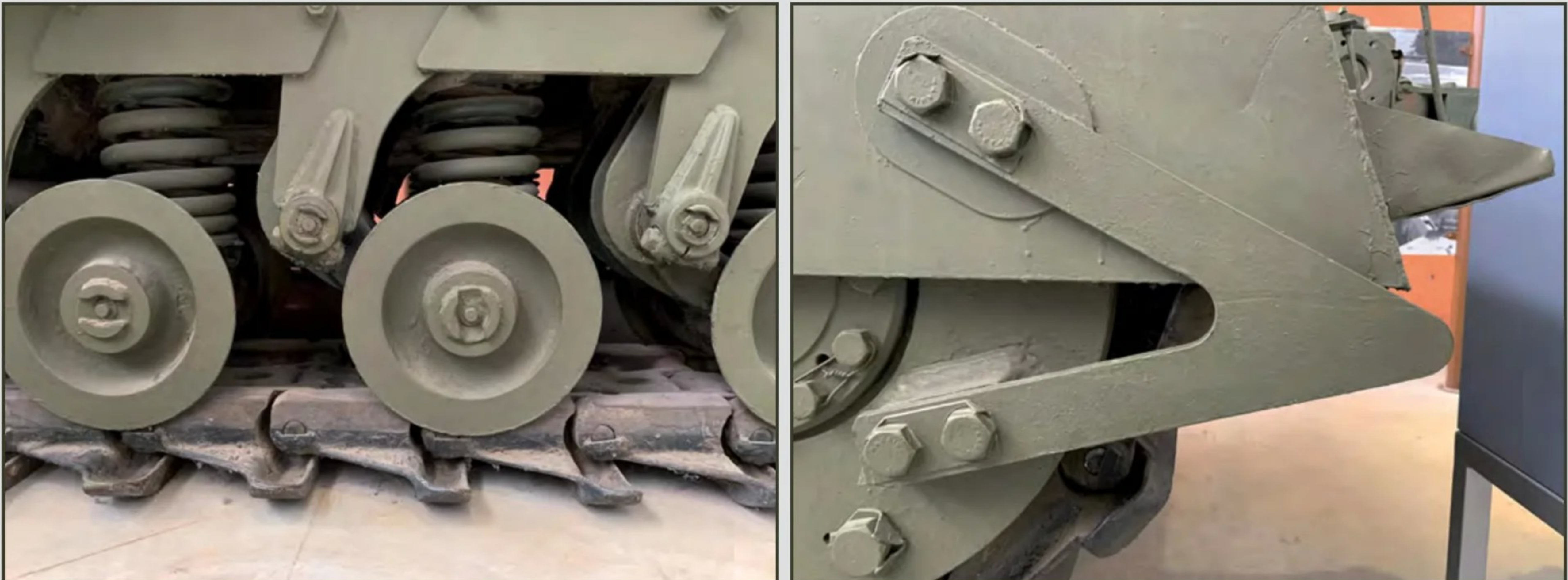




Sponson-side and air box details. Note the mesh trapped behind the panel on the air cooler box



Note that the towing cable guide (?) is fitted with two large screws instead of bolts



A close-up look at those characteristic road wheels, or rollers. Each bogie is individually sprung offering quite smooth ride for the tank's occupants

This V-shaped bracket is a distinctive part of some Churchill variants. It held a 'stripper arm' at the back, designed to scrape excess mud off the exterior of the track. Early on they found ice and mud could build up under the track guards, popping them off or jamming the track (info by Chris Meddings)





The Crocodile's six-and-a-half-ton armoured trailer carried 400 gallons (1,800 litres) of fuel and is a huge piece of equipment

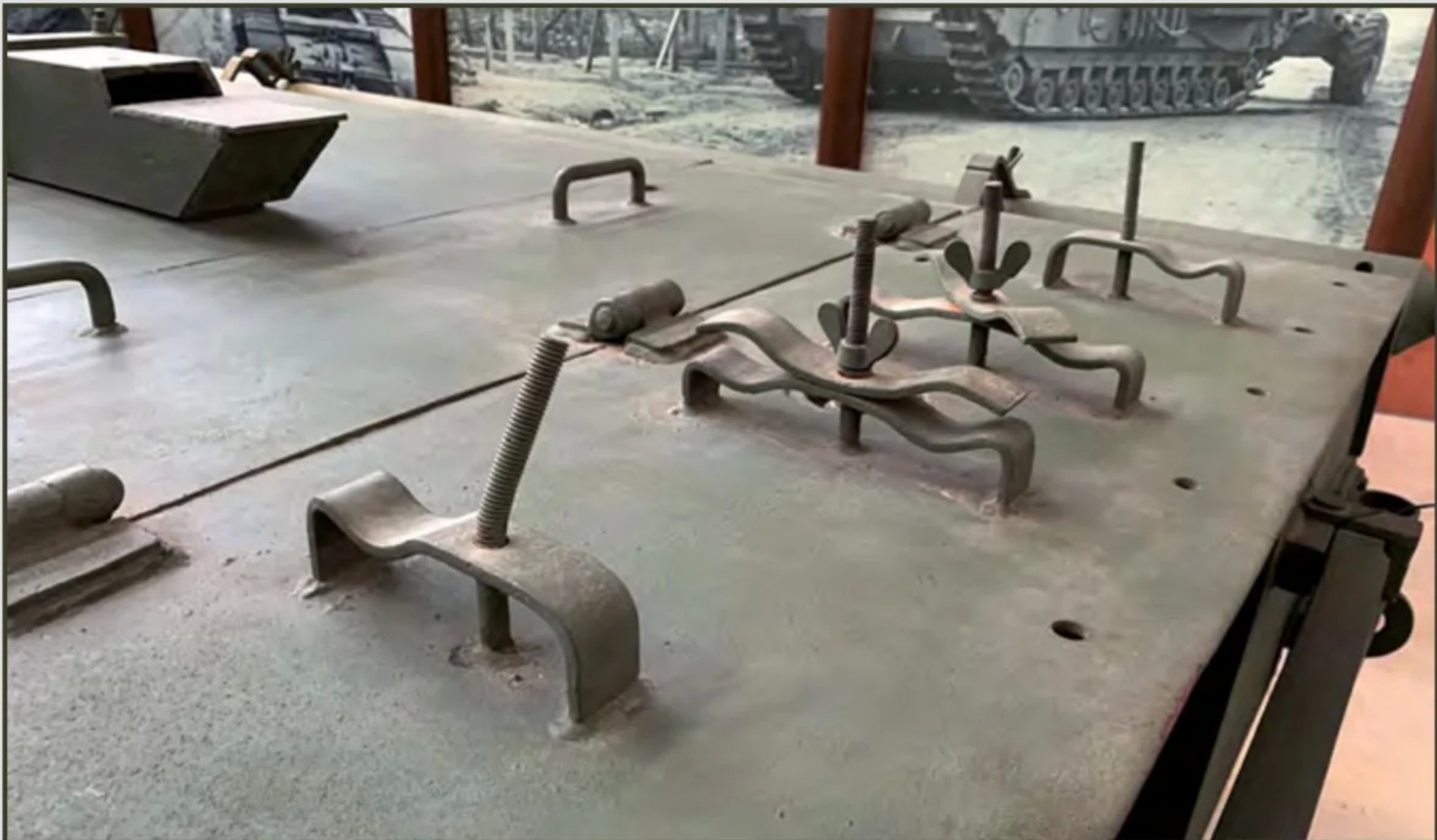




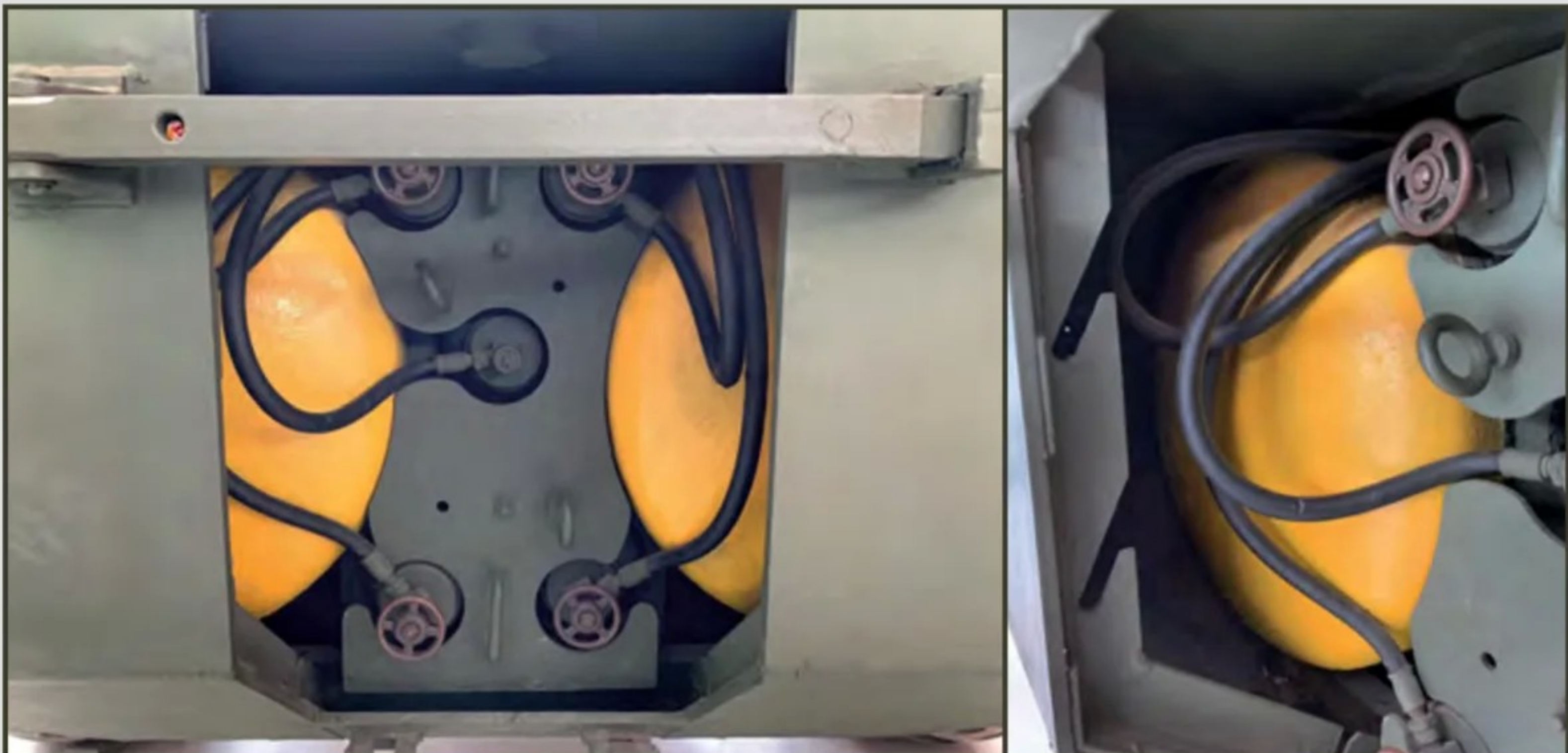
Close-up on one of the trailer's large wheels showing its rings of bolts and armoured hub



Detail view of the trailer's welded structure and fittings



Brackets across the trailer's top plate usually hold rigid stays to keep the trailer level when being filled with fuel



With the trailer's rear doors open, the twin yellow tanks that hold the 'Fuel K' can be observed. Between them, we can see the valves of the five pressurised gas tanks that propelled the fuel



Adjustable stabilising legs could be fitted to keep the trailer level when refuelling



Various views of the articulated link that connected the trailer to the rear of the Churchill. The pipes carrying the pressurised flamethrower fuel passed over the top, through the open-ended, rectangular, boxlike structures seen here







# BOARDING THE SHIPS FOR *OPERATION OVERLORD*

**B**oarding LST-134, we see a GMC CCKW 353 truck named 'Lil 'Nelle' equipped with an HO/HQ-17 type shelter and towing a K-52/PE95 trailer. On the bumper, a camouflage net, from Portland, planned for Easy Red, transports units attached to HQ Division, 1st ID. The truck also has the deep water Fording Kit WV-6 fitted. With the eightieth D-Day commemorations coming in 2024, it's a great time to build an Operation Overlord scene as a tribute to this epoch-making event. •

*Photo: US archives/public domain*









## DEF MODEL, KOREA

The latest sets from this fantastic Korean manufacturer are in and amongst them are two sets for the US M113 armoured personnel carrier. One set is 'factory fresh' with its rubber track pads intact, the other with track pads nicely chewed up to represent them having been 'in country' for some while. The effect is excellent and the creative modeller might wish to use a mix of links on their model to show where some have been replaced by maintenance crews. The detail in each link is staggering and are by far the most refined M113 tracks we have ever seen. They are also quite delicate, so it is essential that the assembly sequence shown in the instructions is followed or you'll end up breaking the ends off. If you fancy building a 1:35 Pz.III or StuG.III in a winter setting, DEF Model have also come up with a set of stunning 3D-print tracks with 'Ostketten' track extensions. They are incredibly finely detailed and the thinness of the Ostketten is breathtaking: you'll need great care when assembling them! Finally, new from DEF are two sets of wheels/tyres for Tamiya's evergreen Sd.Kfz.222 armoured car: 'Early' tread pattern, and 'Normal' pattern. As always, stunning detail features and they will transform the kit into something very special. **MIM**

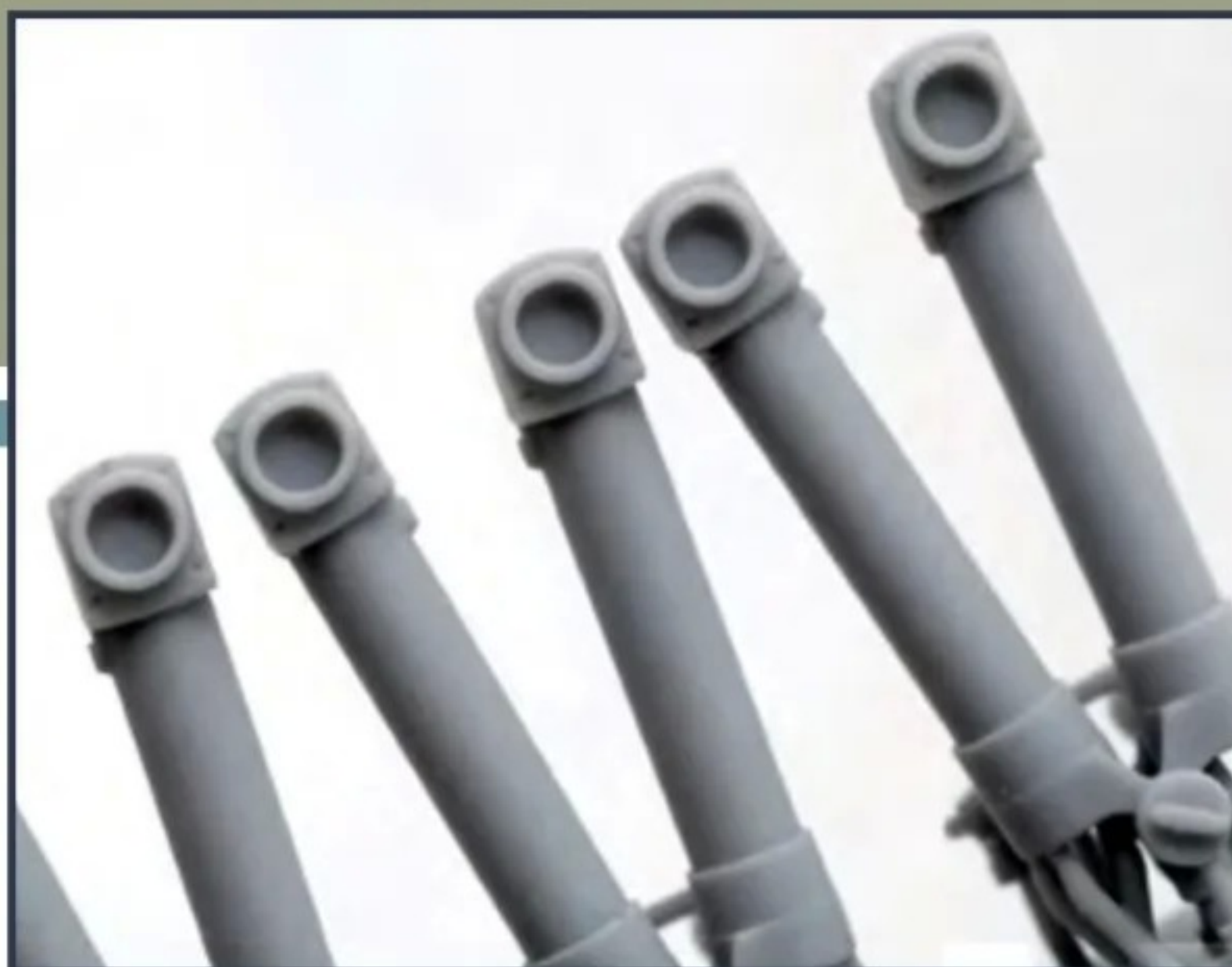
### 1:35 3D-printed AFV track sets

- US M113 workable track set (DT35005)
- US M113 workable track set - damaged pads (DT35006)
- WW2 German Pz.III winterketten workable track set (DT35004)

### 1:35 3D-printed AFV wheel sets

- German Sd.Kfz. 222/223 sagged wheel set (2) early (DW30072) for Tamiya
- German Sd.Kfz. 222/223 sagged wheel set (3) normal (DW30073) for Tamiya





## EDUARD, CZECH REPUBLIC

Expanding further the list of 3D-printed on-vehicle tools for WW2 German vehicles, the new set of periscopic binoculars will be a very handy addition to the inventory of any modeller of 1:35 Third-Reich AFVs. Five binoculars are included here, and they are nicely detailed with recessed lens apertures (upper and lower) to help the application of gloss black paint or a disc of clear plastic. Also new to this range is a very nicely done set of five WW2 cutters plus a small fret of photo-etched brass (not pictured) for the brackets. The detail is very fine and the printing is super-crisp, making these a very worthy purchase. Finally, in the same line we have a useful pack of WWII German towing cable-eyes, shown right. **MIM**

### 1:35 3D-printed detail sets

- WWII German trench binoculars print (635028)
- WWII German wire cutters (635026)
- WWII German towing cables (635027)



## MINIART, UKRAINE

The standard black uniform worn by Panzer crewmen (both Heer and SS) was heavy and rather conspicuous when out of the vehicle. The German Wehrmacht forces developed a number of lighter outfits, broadly with the same cut, but made from Reed Green herringbone drill. The SS followed suit with a uniform in dot 'pea' camouflage which differed slightly in details – lacking the large chest pocket and left leg pocket seen on many of the Wehrmacht items. Because of the material used, these summer denim drill uniforms appeared untidy and more wrinkled than the normal uniforms. This set from MiniArt has four figures, posed to sit on the outside of their vehicle, and are in very relaxed positions. The box-art and the uniform details indicate that these are SS personnel, but with a little modification could be converted to Heer (army) figures. The moulding is the normal style for MiniArt, with a slightly soft grey plastic picking up good detail. Fit of the figures is excellent, and the animation is very realistic. Some modellers may choose to use the tip of a sharp blade to scrape and define the edges to collars and cuffs, but generally these four crew figures can be quickly assembled and placed on any suitable vehicle. A very useful set of four crew to sit on an armoured vehicle. **CLS**

### 1:35 injection-moulded figure set

- Panzer crew France 1944 (35364)



## PASSION MODELS, JAPAN

The latest detail set from Passion Models of Japan is designed to be used on Tamiya's recent Panzer IV/70(A) in 1:35. The set comprises a single panel of 3D-printed tools, clamps, tie-downs, mud-guard springs, fire extinguishers and more, all crammed onto the compact plate. The finesse of the parts is staggering and once you have gently removed them from their supports, fixed them to the model with CA glue and painted/weathered them, they will look amazing. **MIM**

### 1:35 3D-print AFV up-detail set

- Pz.IV/70(A) Print Parts (P35T-018) for Tamiya



## TAMIYA, JAPAN

Tamiya's newest paint brushes employ high-quality PBT (synthetic fibre) resin bristles to form rounded tips. The medium-thick handles are easy to hold and are formed from solvent-resistant plastic. Laser markings are engraved on the handles and tags are attached to the grip end to prevent the brushes from rolling off the work surface. **MIM**

### Scale modelling equipment

- Tamiya Modeling Brush (87223) Rounded Flat Brush Extra Small
- Tamiya Modeling Brush (87224) Rounded Flat Brush Small





# BOOK REVIEWS

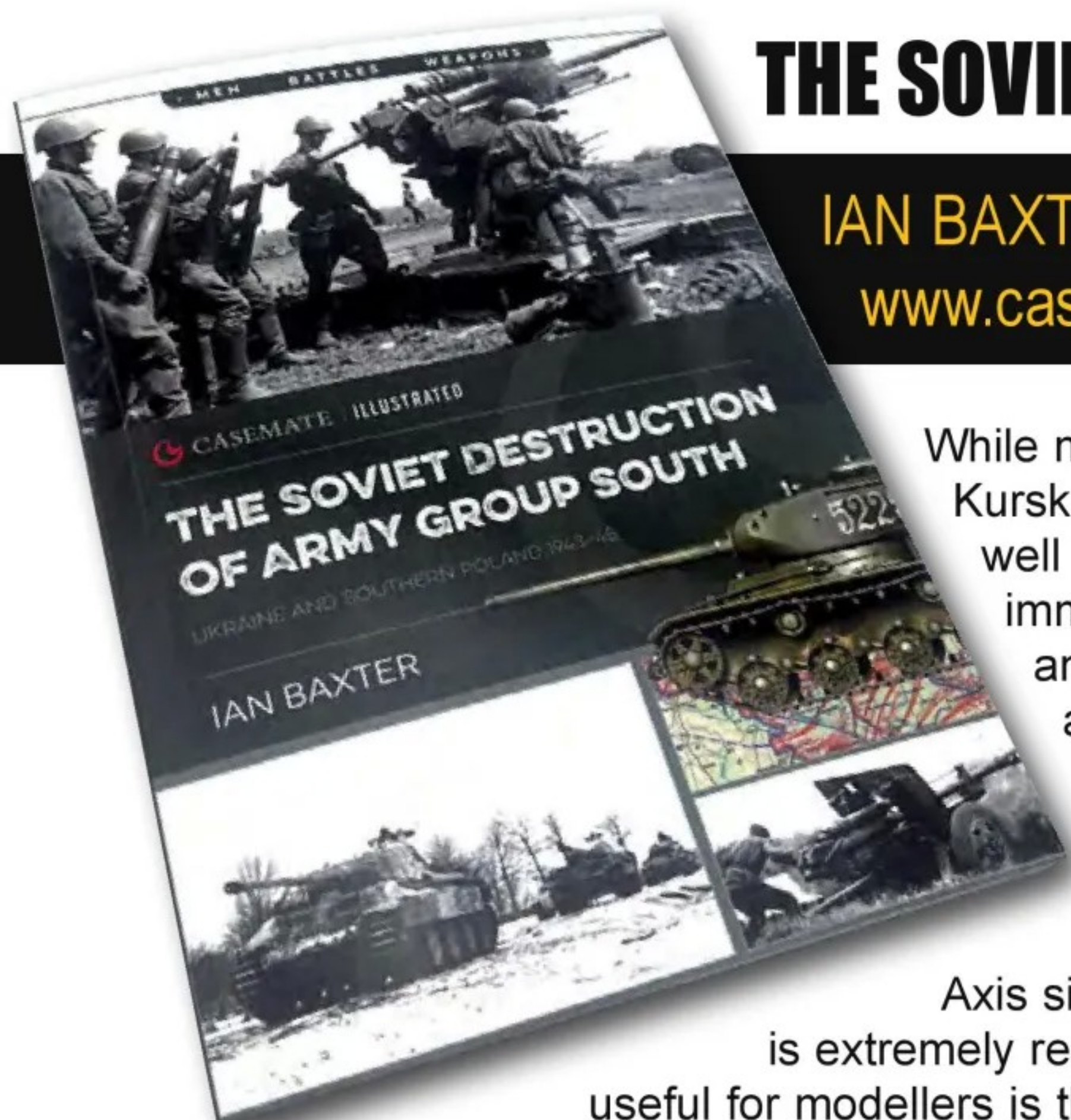


## 2CM FLAK 38 & FLAKVIERLING 38, CAMERA ON #29

ALAN RANGER, MMP BOOKS  
[www.mmpbooks.biz](http://www.mmpbooks.biz)

The Camera On series of books has been an excellent source of original photos, taken by serving German soldiers during WW2. Because of their origin, the photos are not always the best quality, being slightly fuzzy at times, but they score highly for representing the weapons, vehicles and personnel in absolute realism, rather than staged or posed photographs. This latest book covers the later 2cm Flak 38, which was the final light anti-aircraft gun, replacing the earlier Flak 30

and was in turn replaced by heavier weapons with greater range and more punch. The Flak 38 was the basis of the dreaded Flakvierling, where four guns were grouped on a single mounting, which could throw up an incredible firepower at a single target. These guns, the single and 'vierling type were extensively fitted onto vehicles – including trains and ships – to provide anti-aircraft defence, but they were used equally against ground targets with devastating effect. The book has brief text and is essentially a wonderful collection of photos with informative captions. The details are clear in the shots, but much of the value of this publication is to illustrate the emplacements and uniforms of the crews. The photos are all previously unpublished and Casemate UK are the stockists for this excellent reference book which offers a lot of detail for modellers needing information about these iconic weapons. **CLS**



## THE SOVIET DESTRUCTION OF ARMY GROUP SOUTH

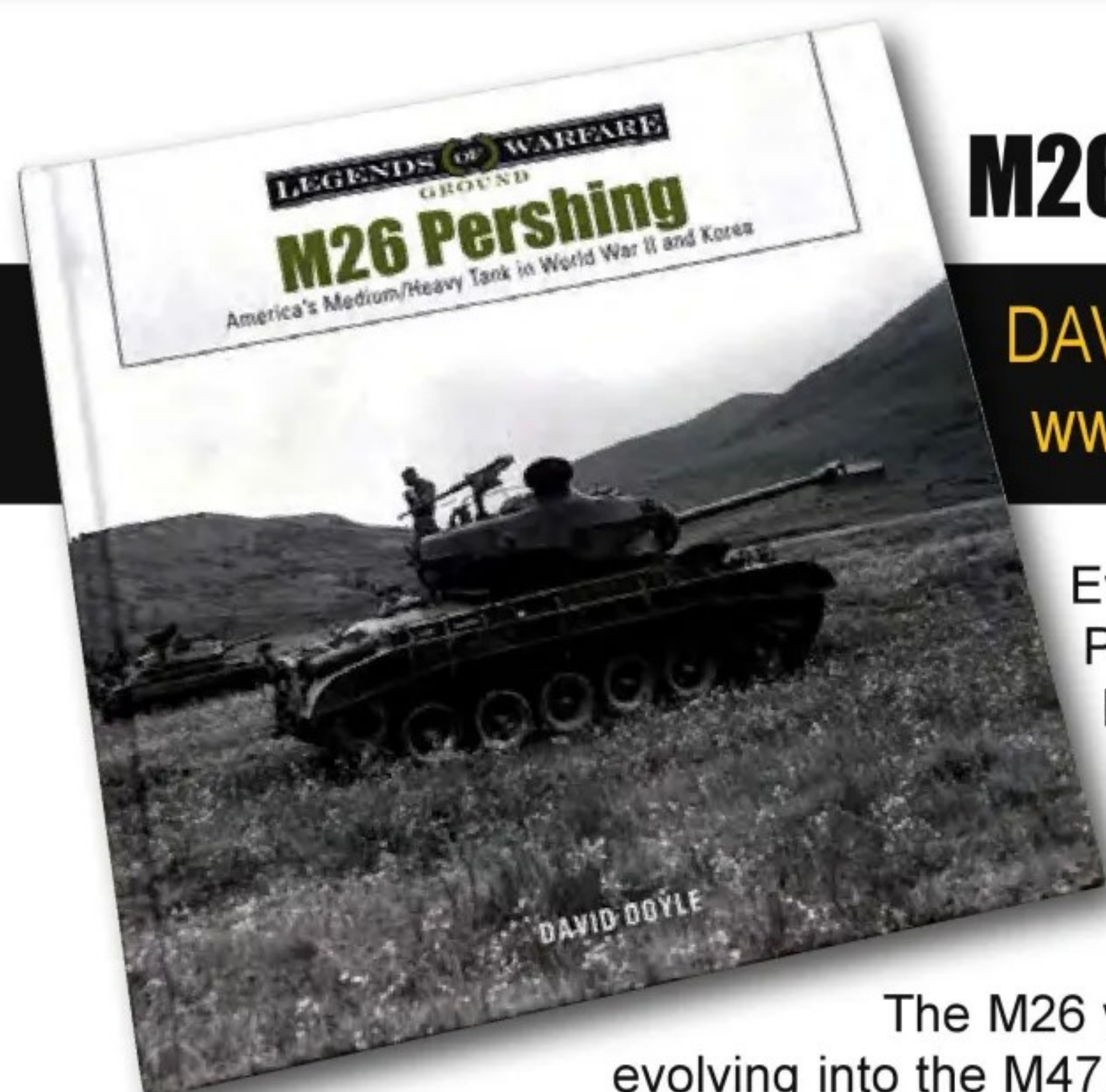
IAN BAXTER, CASEMATE ILLUSTRATED  
[www.casematepublishers.co.uk](http://www.casematepublishers.co.uk)

While much has been written about the invasion of Russia and the Kursk battles, the final stages of WW2 on the Eastern Front are less well known. This book from Casemate captures in 130 pages the immensity of the Soviet steamroller as it crushed through Ukraine and onwards to the doorstep of Germany. There was great bravery and sacrifice on both sides, but the inexorable onslaught from the east could only have one outcome, at the cost of an immense and rising casualty rate as the final months ticked by (1.1 million Germans, 3.6 million Soviets). This book explains the disparity in manpower and the scarcity of resources on the

Axis side, where each mile of frontline was defended by only 150 Germans and one machine gun. The text is extremely readable and engaging, giving a clear account of events in Ukraine and onwards. However, equally useful for modellers is the incredible selection of photographs which not only help to tell the story, but also prove invaluable for modellers. There is artwork to support the pictures, but the choice of high quality pictures is particularly helpful, with all of the shots being 'new', rather than having been in print in many books. The captions are good, with very few errors and these help the reader to appreciate the unfolding tragic events leading to the Russian victory. For readers and for modellers, this is a superb book for the library. **CLS**







## M26 PERSHING: LEGENDS OF WARFARE

DAVID DOYLE, SCHIFFER PUBLISHING, LTD.  
[www.schifferbooks.com](http://www.schifferbooks.com)

Even as early as their experiences in the Kasserine Pass, the US army recognised that the M4 Sherman had limitations and various designs were proposed to develop a heavy tank, with more armour and a heavier gun. Following a series of versions, the M26 was the result and this tank saw service at the end of WW2, with well-known actions at Remagen and in Cologne.

The M26 went on to see extensive service in Korea before evolving into the M47, M48 and M60. The M26 was therefore a critical step from pre-WW2 designs to the modern main battle tanks. This 144-page book from Doyle is a masterpiece, giving the modeller and historian the type of detail that is useful without becoming lost in minutiae. The first part of the book covers initial design and then WW2 service as the T26E3 in the Zebra mission. The book continues with a mass of sharp museum photos showing interior and exterior details and information about variants. The last part of the book covers the T26 Pershing, as it is now named, in Korea. The book is profusely illustrated with excellent photos and detailed captions and this is supported by scale drawings and colour profiles, making this a very complete coverage of a tank which played such a critical role in the late 1940's and early 1950's, cementing the concept of the Main Battle Tank as the master of the battlefield. For anyone making a model T26/M26 this book is a superb reference without parallel. **CLS**



## FERDINAND/ELEFANT: LEGENDS OF WARFARE

DAVID DOYLE, SCHIFFER PUBLISHING, LTD  
[www.schifferbooks.com](http://www.schifferbooks.com)

This vehicle started life from the fertile imagination of Dr. Ferdinand Porsche in 1939, becoming part of the Tigerprogramm which eventually saw the Henschel Tiger (H) become the iconic Tiger I. The production of the Porsche prototype saw

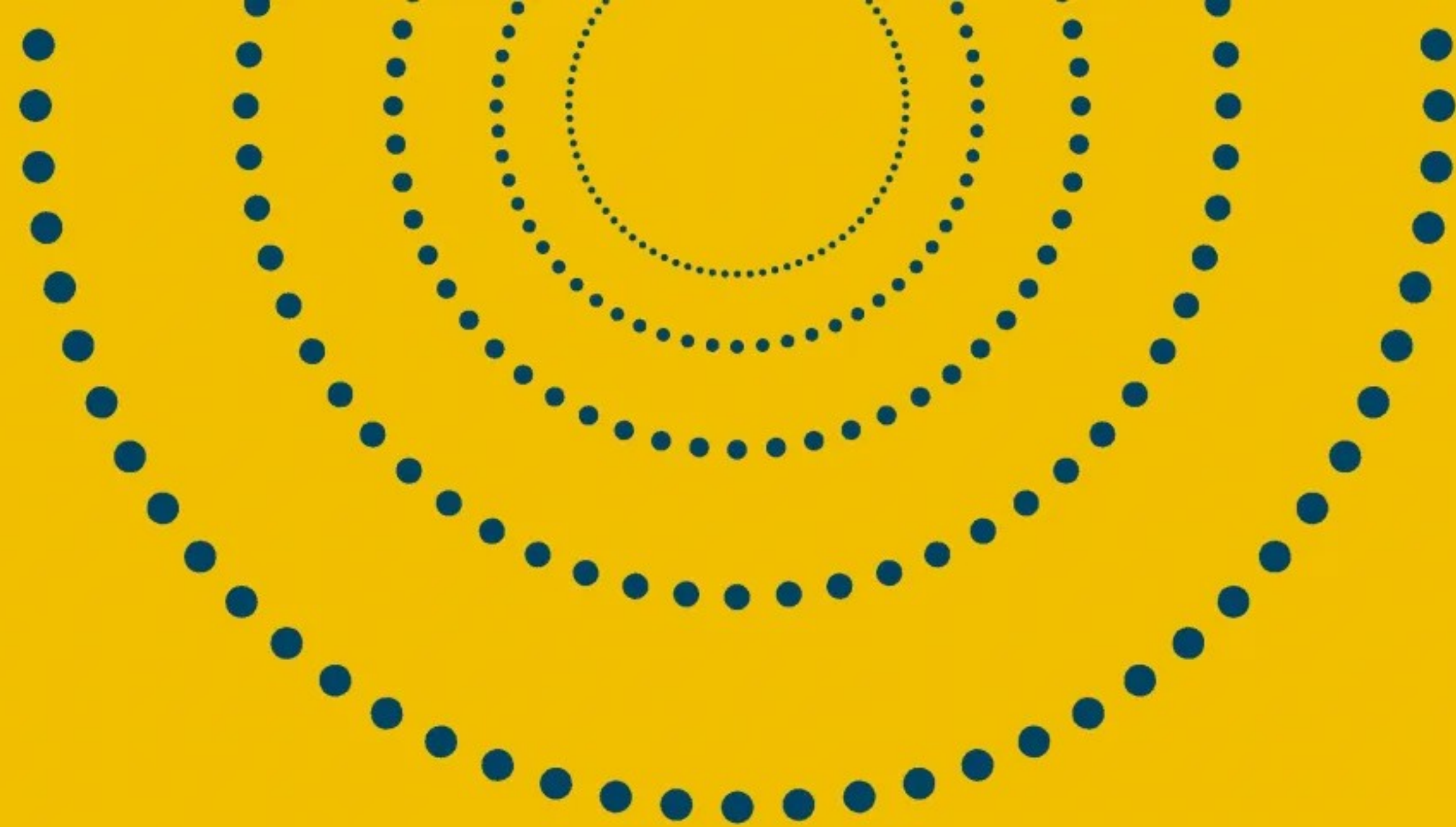
ten completed as turreted Tiger (P) tanks, while the other ninety chassis were manufactured as self-propelled guns with the 88mm L/71 gun in a rear fixed superstructure and the engines moved to the front. These were named Ferdinand and saw their debut in Operation Citadel around

Kursk in mid-1943. While undeniably effective, the vehicle had shortcomings and they were withdrawn from service in January 1944 for a large series of modifications, which included a cupola, a forward machine gun, wider tracks and redesigned engine grilles. The changes were quite extensive and the improved machines were named Elefant. These remained in service, in dwindling numbers, serving in Italy and then on the Eastern Front, with two surviving to be captured in Berlin! The vehicle was novel in many ways, with electric drive driven by petrol engines (rather like my Prius!) and this was effective but complex. This book is an excellent resource with a mixture of basic text, historical photos (factory and action shots), museum photos and line drawings. Indeed, the museum photos are particularly useful for modellers as they give close-up views of different areas. This publication has the right level of detail for a modeller wanting to improve a kit or get the markings correct. **CLS**





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#### 39009 VIETNAM GUN TRUCKS

Squadron Signal Publications is proud to present its first new vehicle book release from the new Georgia Squadron location. The Vietnam Gun Trucks "Detail In Action" includes all the best parts from the "In Action" and the "Walk Around" series combined into one book! PLUS, this book features 144 pages! This book is written by author David Doyle. Cover artwork is done by Antonis Karidis.

### NEW

#### 10269 F-16 FIGHTING FALCON

Squadron Signal Publications continues it's new book releases from the new Georgia Squadron location with this revised and expanded 80 page full colour F-16 Fighting Falcon in Action. This book is written by author David Doyle. Illustrations are done by Mark Tutton and the cover (front and back) artwork is done by Piotr Forkasiewicz. This books is 80 pages full colour.

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An impressive North Vietnamese Army SAM launcher in 1:35



**BLACK ROSIES**  
An effective diorama that pays tribute to the half-a-million African American women who worked in US factories during WW2



**A**t Slapton Sands, Devon, UK, we see LCI(L)-84 disembarking US GIs via its two side-ramps. The image is likely to depict 'Exercise Fabius' which took place between May 3rd and 8th, 1944. This location in south-west England is best known for the disastrous 'Exercise Tiger' – one of a series of large-scale rehearsals for the D-Day landings on the Normandy coast – which took place in April 1944. Organisational problems resulted in 'friendly fire' incidents during the exercise and an Allied convoy was attacked by E-boats of Germany's Kriegsmarine, resulting in the deaths of at least 749 American servicemen. Because of the impending Normandy operations, the incident was kept strictly secret at the time and was only minimally reported afterwards. (Edited from Wikipedia). •



USS LST-289 arrives in Dartmouth, England, after being torpedoed by German torpedo boats during an invasion rehearsal off Slapton Sands, England, on 28 April 1944 (80-G-K-2054)

# EXERCISE FABIVS, SLAPTON SANDS

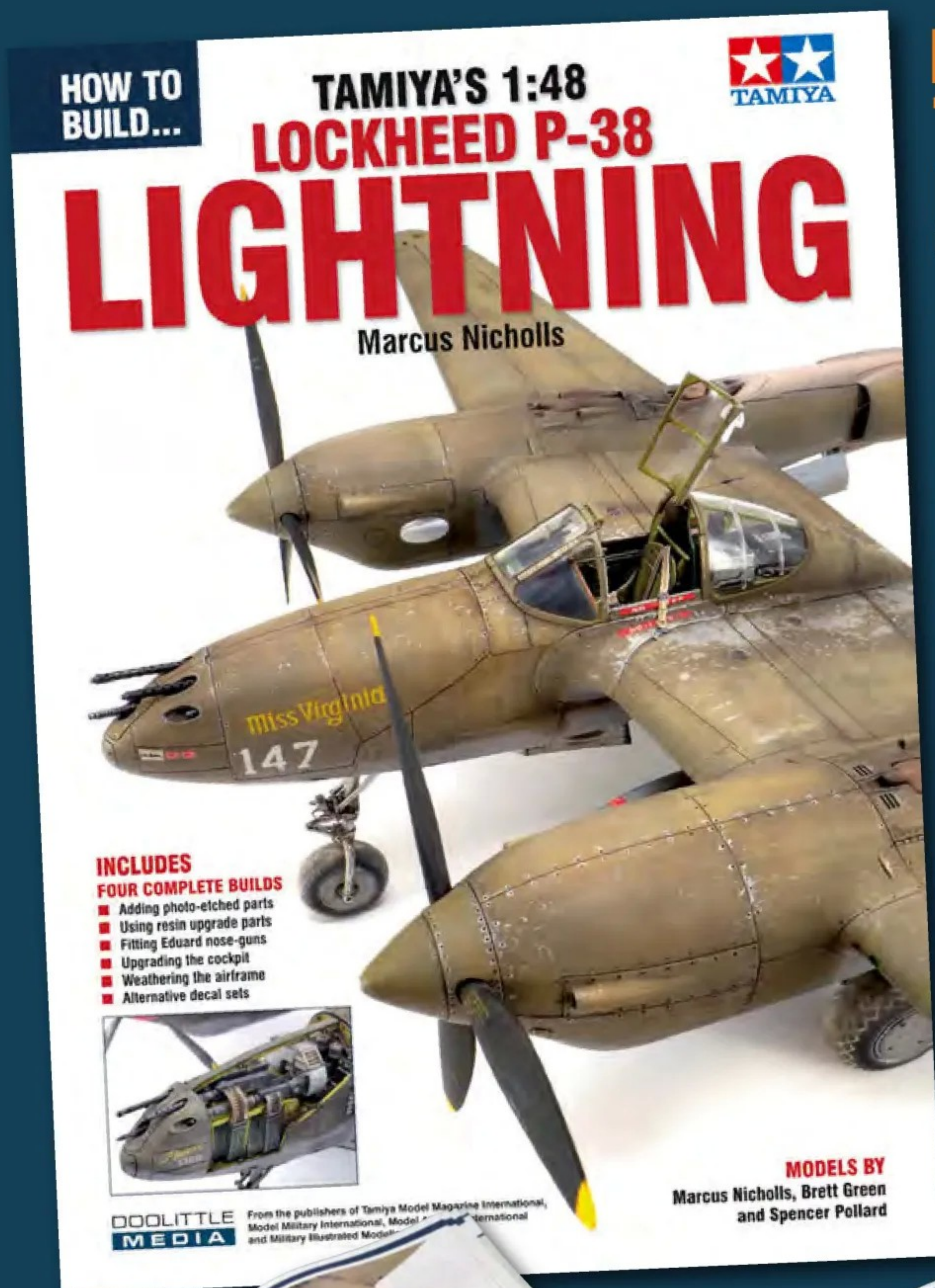
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# NEW from the 'HOW TO BUILD...' series



## How to Build... TAMIYA'S 1:48 LOCKHEED P-38F/G LIGHTNING

By Marcus Nicholls

The Lockheed P-38 Lightning is an iconic US fighter from the Second World War. Its twin Allison V12 engines were mounted in booms to free-up the nose so it could house a fearsome array of four M2 Browning machine guns and a 20mm cannon. The twin-boom airframe became a sight feared by enemies wherever it served, with good reason.

In 2019, after several years of painstaking research, Tamiya released an all-new kit of this sleek aircraft and it has taken its place proudly in the 1:48 Aircraft Series as No.120 in the range.

In this new 'How To Build' book, Tamiya Model Magazine's Editor, Marcus Nicholls, presents no less than four built-up examples of Tamiya's fantastic model; one Lightning each from Brett Green and Spencer Pollard, plus two from Marcus Nicholls.

The second of Marcus's models incorporates resin and photo-etched super-detail sets from Eduard, showing how they can be used within the build to take the detail to an even higher level. New photos of the other models show how Brett Green and Spencer Pollard built and painted the models in their own styles.

The book includes four complete builds, covering the following topics:

- Adding photo-etched parts
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- Extending the nose undercarriage leg
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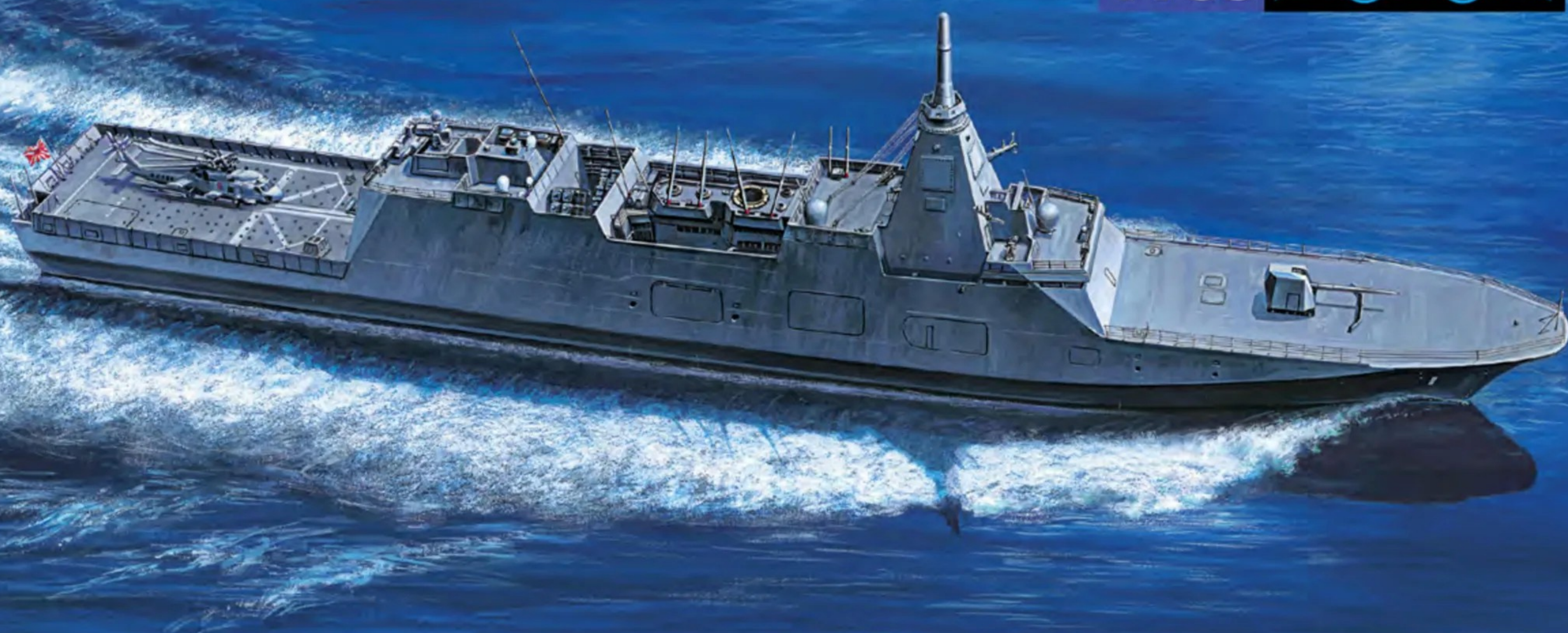


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# Cutting-Edge Defense on the Waves

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## JMSDF Defense Ship FFM-1 Mogami (Item 31037)

The first ship of the revolutionary Mogami class, the FFM-1 Mogami was commissioned in April 2022, and the new FFM classification signified its ships' status as frigates (FF) with high stealth, and given a Multi-purpose brief including Mine-sweeping duties (M). Now, Tamiya welcomes this cutting-edge ship into the 1/700 Water Line Series. Its striking form featuring angular design and Unicorn antenna on the mast is authentically captured in style. The kit also features realistic depictions of missile launchers and antennas, and some components can be attached without the need for cement. Enjoy assembling this innovative defense ship which will surely be a key for the future coastal defense of Japan.

The SH-60K patrol helicopter is realistically depicted. Rotors can be assembled deployed or folded.



The helicopter hangar interior is also captured, with open or closed shutters.

## JMSDF DEFENSE SHIP FFM-1 MOGAMI

Slide molded mast parts realistically recreate even small protrusions and give ease of assembly.



Remotely controlled weapon station

L/62 5-inch gun with poly cap turns right and left, and features barrel elevation.

Unicorn antenna

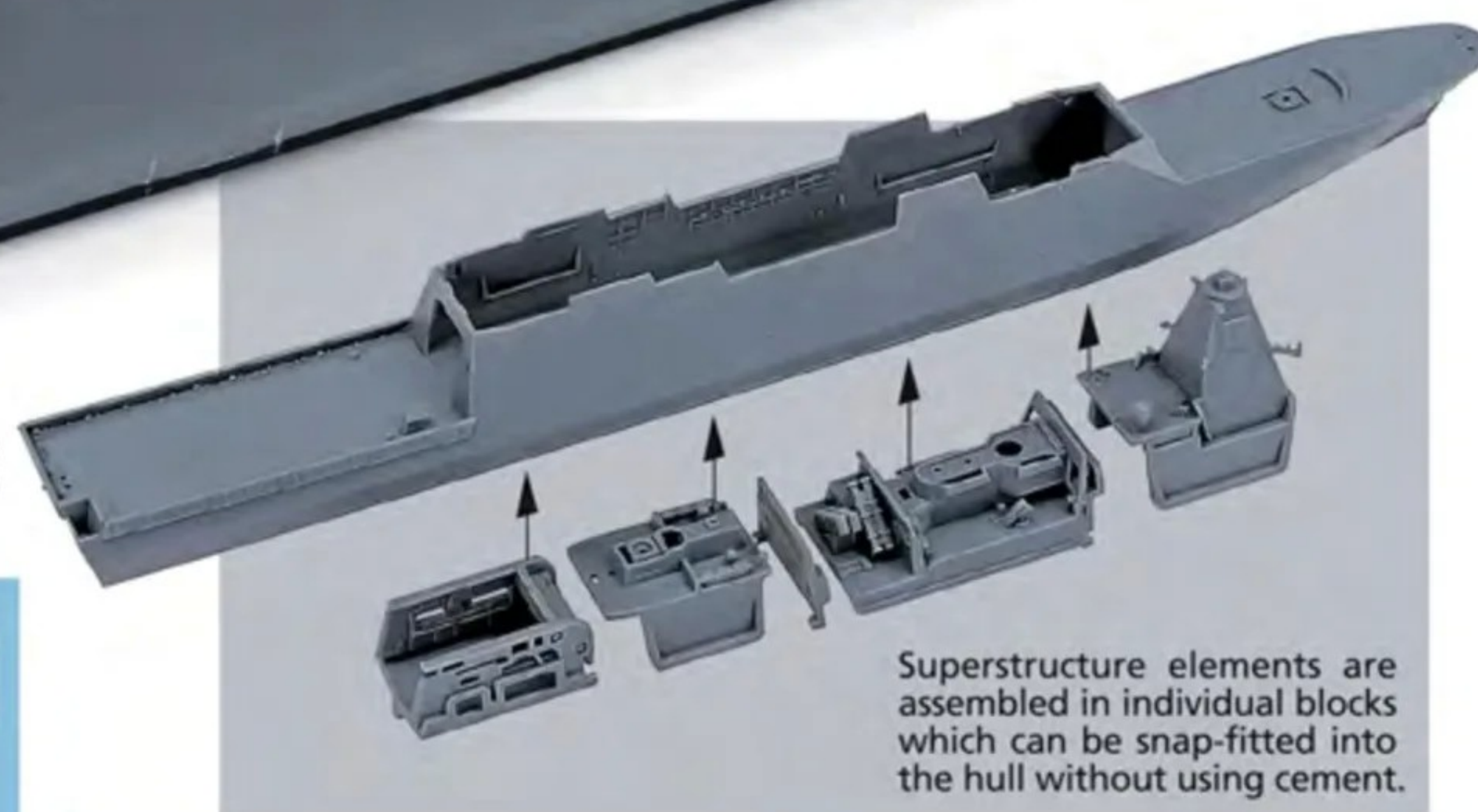
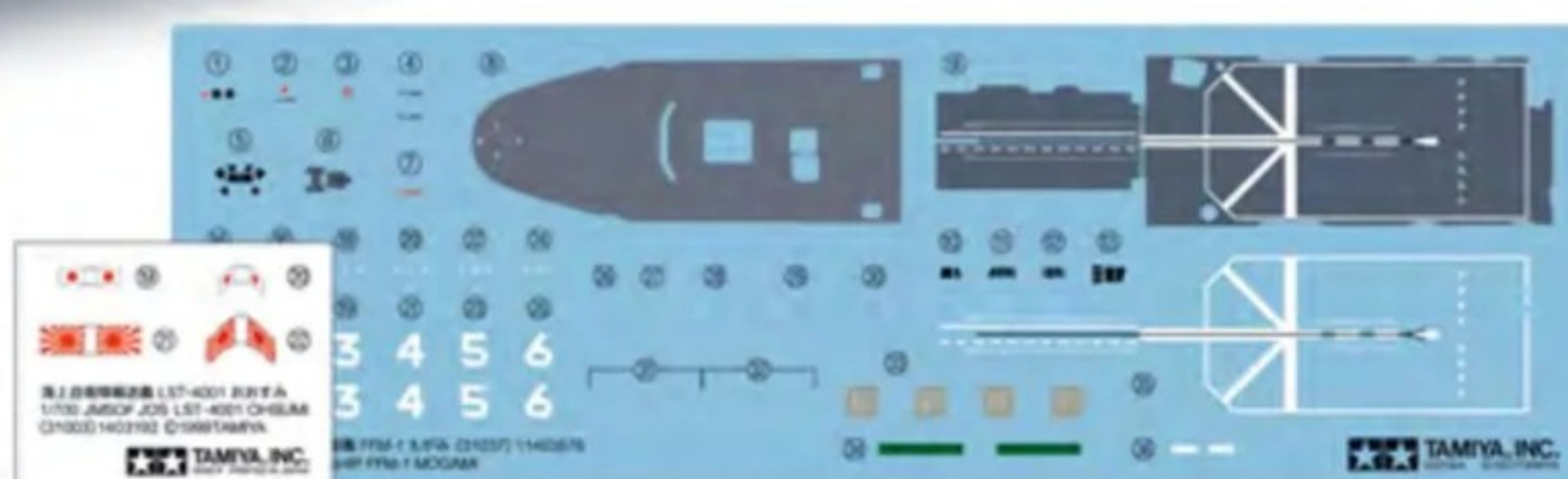
SSMS-3 quadruple missile launcher

SeaRAM sea-to-sea missile system

The hull is split into two components, and hatches are finely molded.

★Length: 190mm  
★Width: 23mm

Decals are included to recreate the first six ships of this class. JMSDF flag decals are also included.



Superstructure elements are assembled in individual blocks which can be snap-fitted into the hull without using cement.

### Painting the JMSDF Defense Ship FFM-1 Mogami

●Hull : AS-7 Neutral Gray ●Upper deck : LP-14 IJN Gray (Maizuru Arsenal)

《Tamiya Color Spray Paints for Aircraft (AS) / Tamiya Color Lacquer Paints (LP)》

★Images show assembled and painted kit.  
★Product may vary from images shown.

Check Tamiya's homepage for the latest releases! [www.tamiya.com]